

INDEX

Sr. No.	Name of the Practical	Date	Sign.
1.	a. Create a simple sequence based project.		
	b. Create a flowchart-based project.		
	c. Create an UiPath Robot which can empty a folder in Gmail solely on basis of recording.		
2.	a. Automate UiPath Number Calculation (Subtraction, Multiplication, Division of numbers).		
	b. Create an automation UiPath project using different types of variables (number, datetime, Boolean, generic, array, data table)		
3.	a. Create an automation UiPath Project using decision statements.		
	b. Create an automation UiPath Project using looping statements.		
4.	a. Automate any process using basic recording.		
	b. Automate any process using desktop recording.		
	c. Automate any process using web recording.		

5.	a. Consider an array of names. We have to find out how many of them start with the letter "a". Create an automation where the number of names starting with "a" is counted and the result is displayed.		
6.	a. Create an application automating the read, write and append operation on excel file.		
	b. Automate the process to extract data from an excel file into a data table and vice versa		
7.	a. Implement the attach window activity.		
	b. Find different controls using UiPath.		
	c. Demonstrate the following activities in UiPath: i. Mouse (click, double click and hover) ii. Type into iii. Type Secure text		
8.	a. Demonstrate the following events in UiPath: i. Element triggering event ii. Image triggering event iii. System Triggering Event		
	b. Automate the following screen scraping methods using UiPath i. Full Test ii. Native iii. OCR		
	c. Install and automate any process using UiPath with the following plug-ins: i. Java Plugin ii. Mail Plugin iii. PDF Plugin iv. Web Integration v. Excel Plugin vi. Word Plugin vii. Credential Management		

9.	a. Automate the process of send mail event (on any email).		
	b. Automate the process of launching an assistant bot on a keyboard event.		
	c. Demonstrate the Exception handing in UiPath.		
10.	a. Automate the process of logging and taking screenshots in UiPath.		
	b. Automate any process using State Machine in UiPath.		
	c. Demonstrate the use of publish utility.		
	d. Create and provision Robot using Orchestrator.		

Practical 1

Question :

- a. Create a simple sequence based project.

Introduction :

Using sequences in UiPath Studio allows for the organized and modular design of automation workflows. Sequences are a fundamental component that encapsulates a set of activities, promoting reusability and maintainability. By breaking down complex processes into smaller, manageable sequences, developers can enhance workflow readability and facilitate collaboration. Sequences are particularly useful for encapsulating specific tasks, such as gathering user input, processing data, or performing calculations. They support logical structuring of automation projects, making it easier to troubleshoot, update, and scale the automation solution. UiPath Studio's sequence feature empowers developers to create structured and efficient automation workflows.

Solution :

1. Launch UiPath Studio and create a new sequence.

2. Add Input Dialog Activities:

- i. Drag two "Input Dialog" activities from the activities panel.
 - ii. Configure the first one to get the name, set the Title to "Enter Name" and store the result in a variable, let's say, **nam**.
 - iii. Configure the second one to get the age, set the Title to "Enter Age" and store the result in a variable, let's say, **age**.

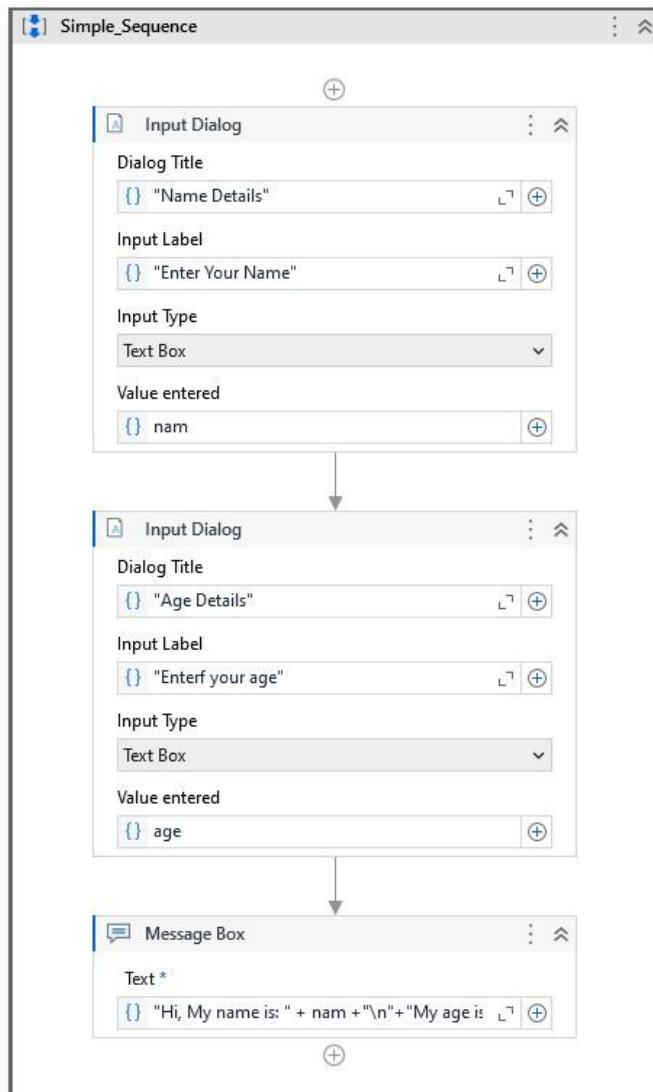
3. Add Message Box Activity:

Drag a "Message Box" activity from the activities panel.

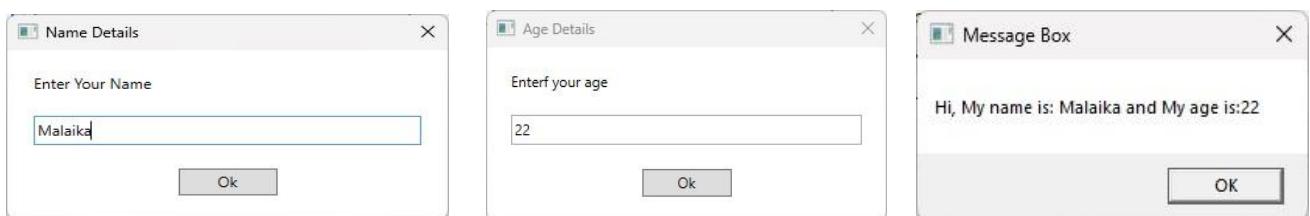
Set the Text property to the variable created in the previous step.

4. Run the Workflow:

Execute the workflow and the message box will display the personalized message with the entered name and age.



Output :



Question :

b . Create a simple flowchart based project.

Introduction :

Leveraging Flowcharts in UiPath Studio enhances the visual representation and control flow of automation projects. Flowcharts provide a comprehensive and intuitive way to design complex processes by utilizing various activities, decision points, and connectors. This visual paradigm facilitates clear communication of logic, making it easier for developers and stakeholders to understand the automation flow. Additionally, flowcharts allow for the incorporation of decision-making logic through conditional branches, improving the adaptability of automation workflows. With a graphical representation of the entire process, users can easily trace and comprehend the sequence of actions, aiding in debugging and maintenance. UiPath Studio's Flowchart feature provides a powerful tool for designing and orchestrating intricate automation processes.

Solution :

We are creating a Number guessing game to demonstrate the use of Flowcharts.

Certainly! Here are the steps to create a Number Guessing Game in UiPath Studio using a Flowchart:

1. Launch UiPath Studio and create a new Flowchart.

2. Add Activities:

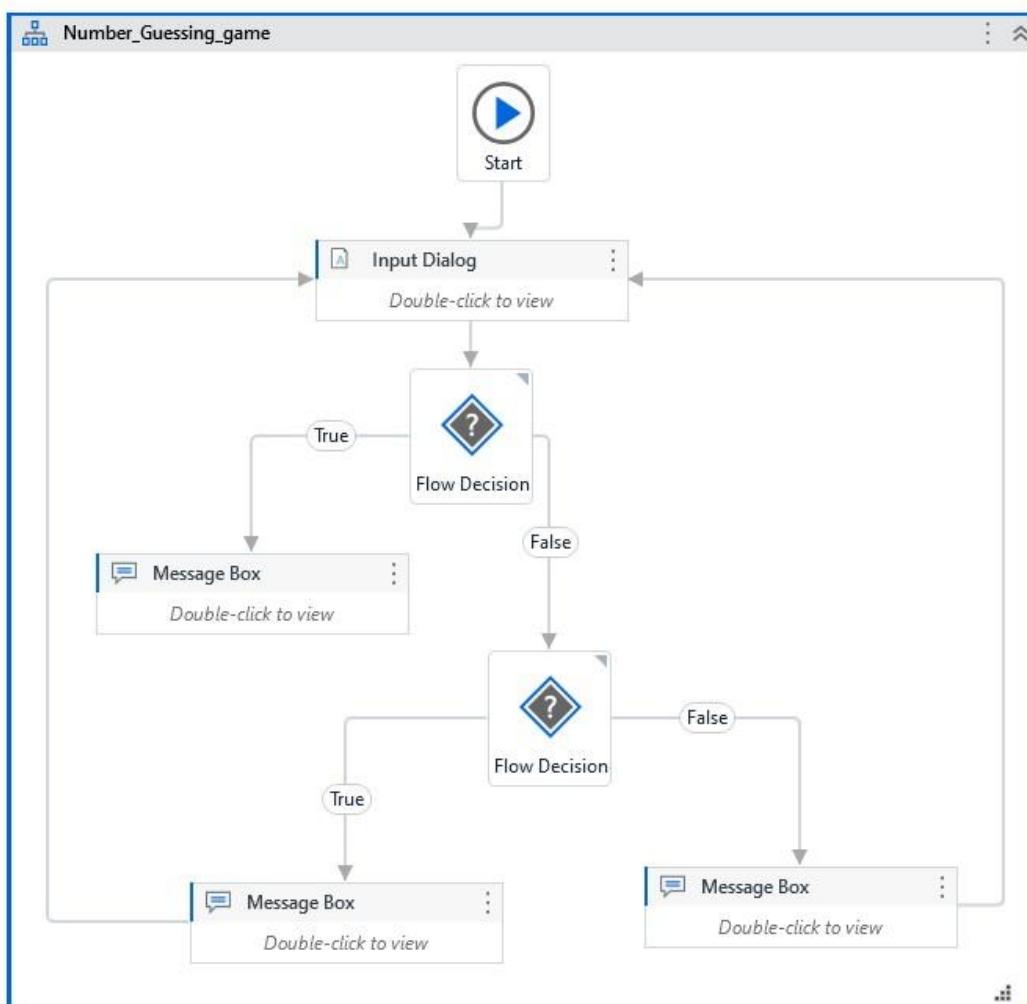
- Drag and drop the following activities onto the Flowchart canvas:

- 'Assign': Use this activity to generate a random number. Create a variable, say 'randomNumber', and assign it the value generated by 'New Random().Next(1, 100)'.

- 'Input Dialog': Prompt the user to guess the number. Store the user's input in a variable, e.g., 'userGuess'.

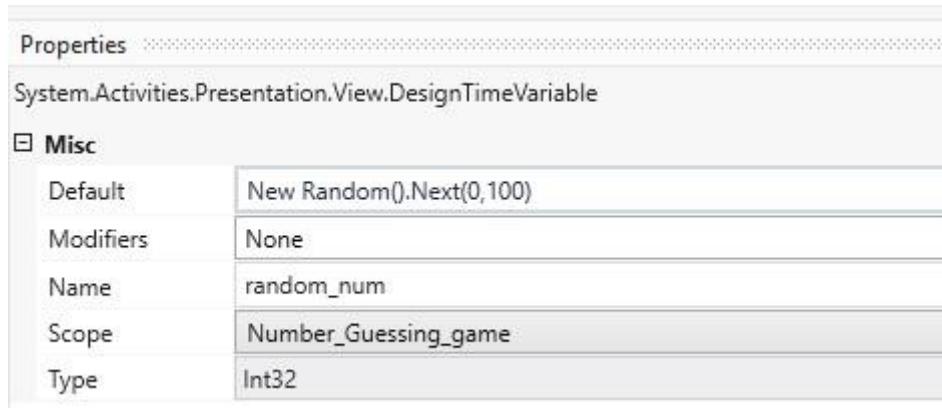
- 'Flow Decision': Evaluate whether the 'userGuess' is equal to, less than, or greater than the 'randomNumber'.

- 'Message Box': Display a congratulatory message if the guess is correct, or a hint message if the guess is too small or too big.



3. Configure Activities:

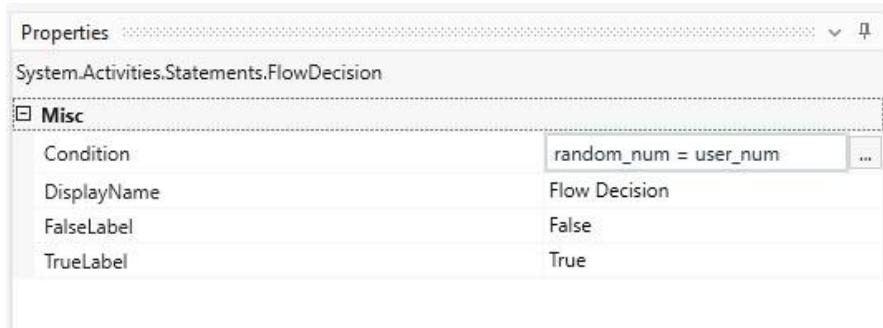
- Configure the 'Assign' activity to generate a random number between 1 and 100.



- Set up the 'Input Dialog' to capture the user's guess and store it in the 'user_num' variable.



- In the 'Flow Decision', set conditions to check if 'user_num' is equal to 'random_num'.



- Configure the 'Message Box' activities with appropriate messages for each scenario.

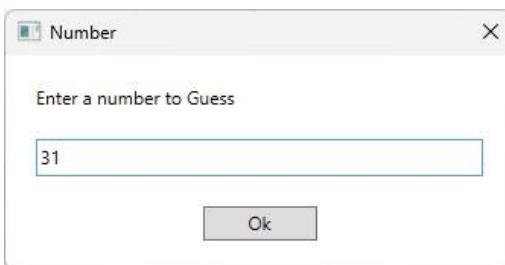
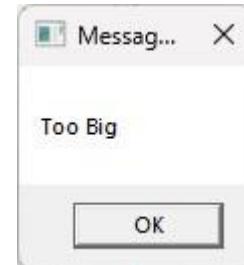
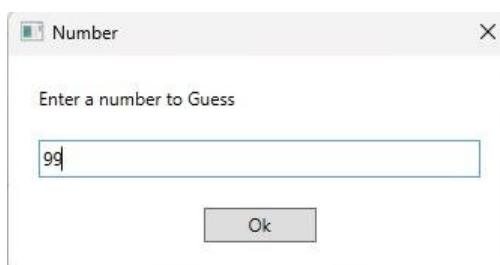
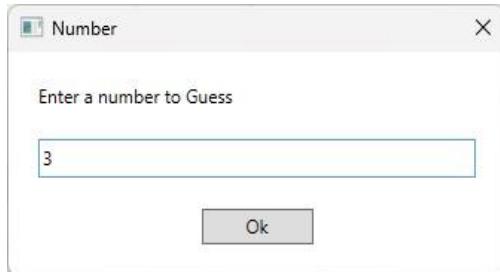
4. Connect Activities:

- Connect the activities using arrows to define the flow based on the user's guess.

5. Run the Flowchart:

- Execute the Flowchart to start the Number Guessing Game. The user will be prompted to enter their guess, and the Flowchart will provide feedback based on their input.

Output :



Question :

- c. Create an UiPath Robot which can empty a folder in G-mail solely on basis of recording.

Introduction :

Please note that automating interactions with web applications using UiPath Web Recorder , especially login credentials, should be done with caution. Ensure that your automation complies with ethical and legal considerations. Additionally, Gmail's web interface may change, so the automation may need adjustments if Gmail updates its UI.

Solution :

Creating a UiPath robot to empty a folder in Gmail solely based on web recording involves automating interactions with the Gmail web interface. Here's a step-by-step guide:

1. Launch UiPath Studio and create a new project.

2. Recording the Automation:

- Use the "Web Recording" feature to record interactions with the Gmail website.

3. Login to Gmail:

- Start the recording by navigating to the G-mail login page.
- Record the steps to enter your username and password, then click on the "Sign In" button.

4. Navigate to the Target Folder:

- Record the steps to navigate to the specific folder in Gmail that you want to empty.

5. Select All Emails:

- Record the steps to select all emails in the folder. This might involve using checkboxes or the "Select All" option.

6. Delete Selected Emails:

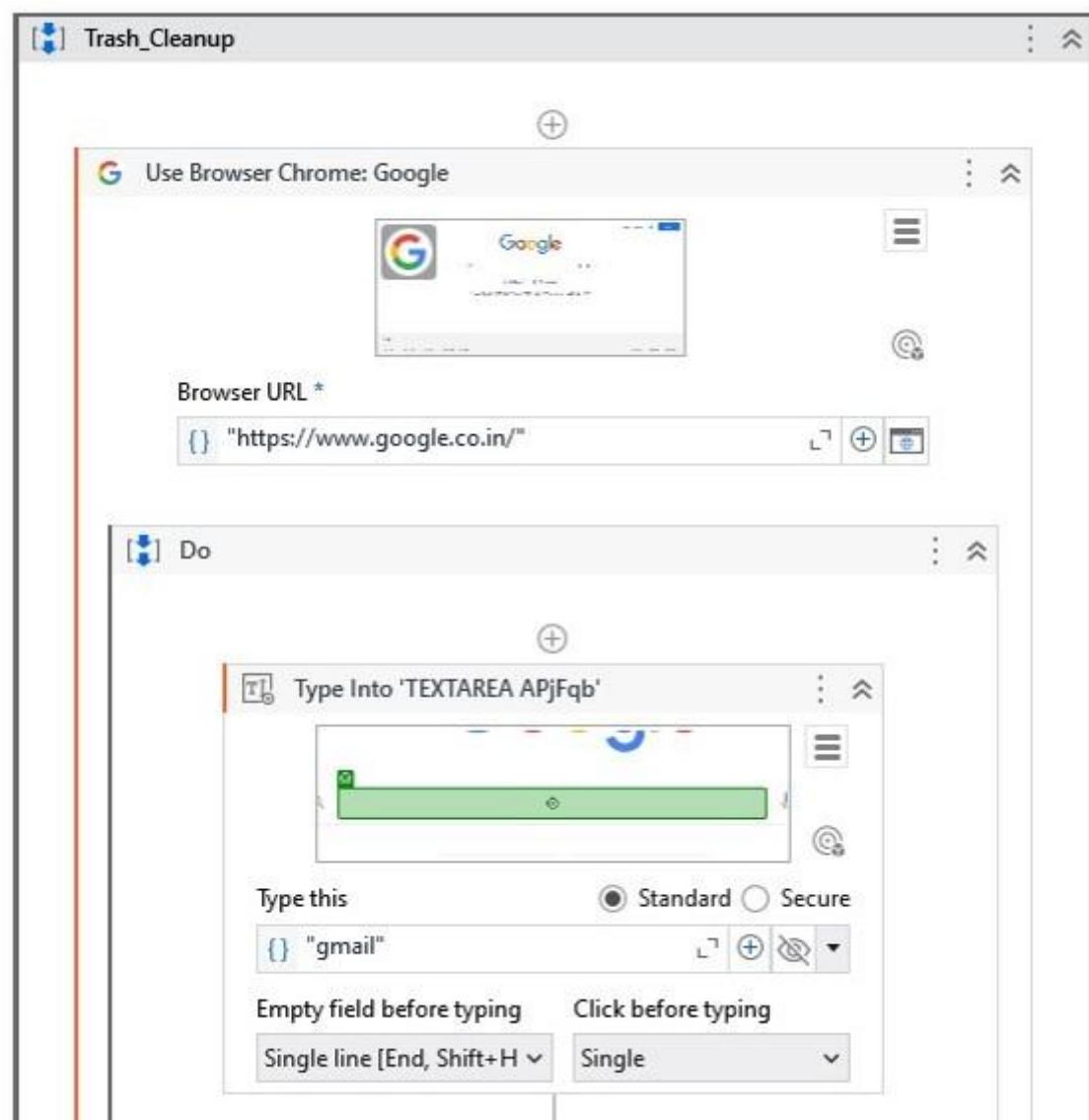
- Record the steps to delete the selected emails. This could involve clicking on the "Delete" button or using the keyboard shortcut.

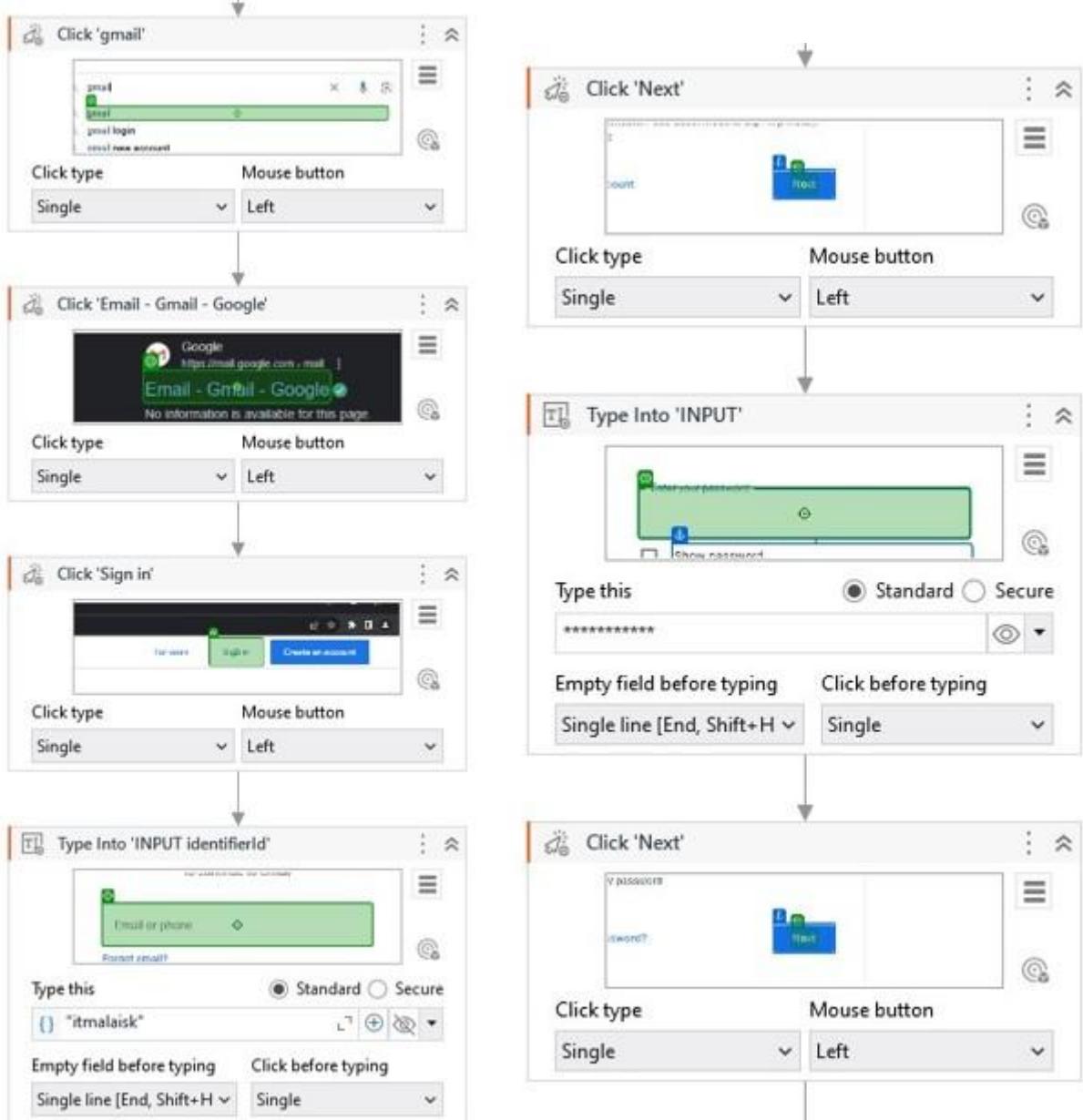
7. Confirm Deletion:

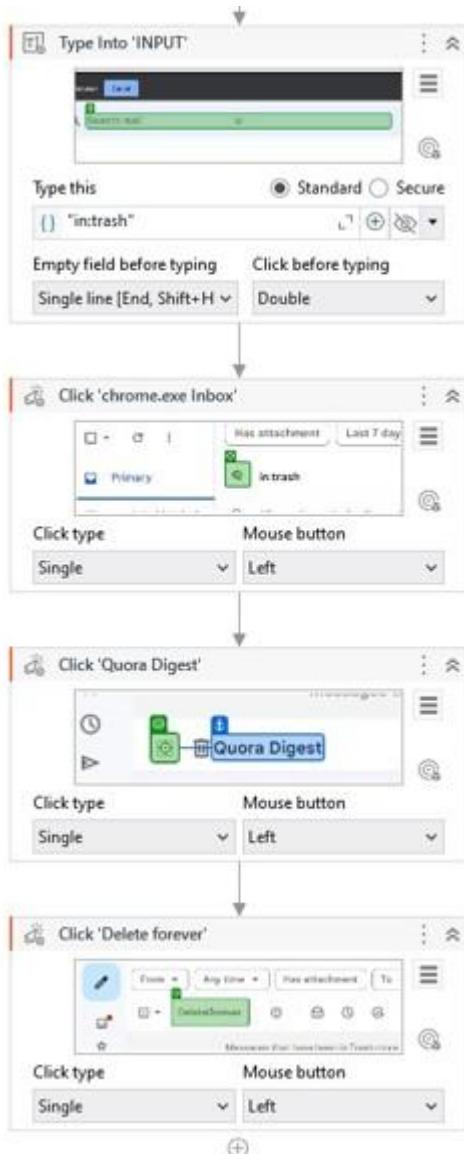
- If Gmail prompts for confirmation before deleting, record the steps to confirm the deletion.

8. Stop Recording:

- Stop the web recording once you have recorded all the necessary steps. The workflow may now look like this :-







9. Adjust Workflow:

- Review the recorded steps and adjust the workflow as needed. This may include adding delays, error handling, or refining selectors.

10. Run the Robot:

- Execute the robot to test the automation. Ensure that it successfully logs in, navigates to the specified folder, selects and deletes emails.

Practical 2

Question :

- a. Automate UiPath Number Calculation (Addition, Subtraction, Multiplication, Division of numbers).

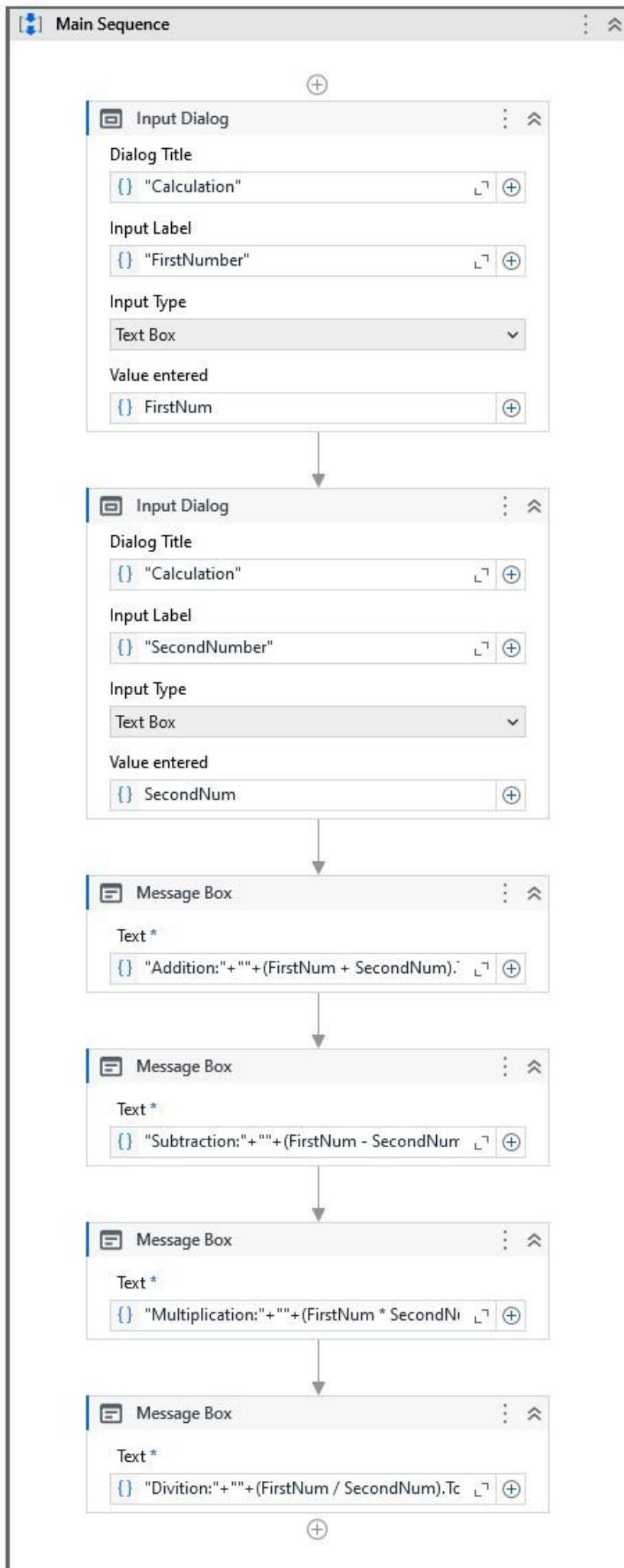
Introduction :

UiPath, a leading RPA platform, provides a versatile and user-friendly solution for automating various tasks, including number calculations such as addition, subtraction, multiplication, and division. This automation not only expedites the computation process but also ensures precision and consistency in results.

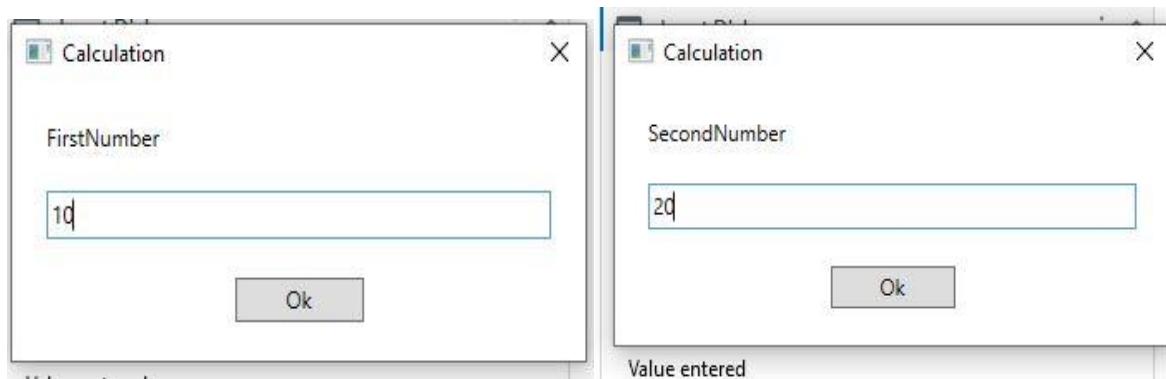
Solution :

- a. Select two Input Dialog from the Activity:
- b. Enter the values in the input dialog box like dialog title, label and also select the input type text box from the dropdown.
- c. Define two variables in the variable table and assign the variables to both the input dialog in value entered box.
- d. Take four message boxes from the activity for each operation.
- e. Enter the operation formula in the message boxes and us method **ToString** to convert them into string in the output.

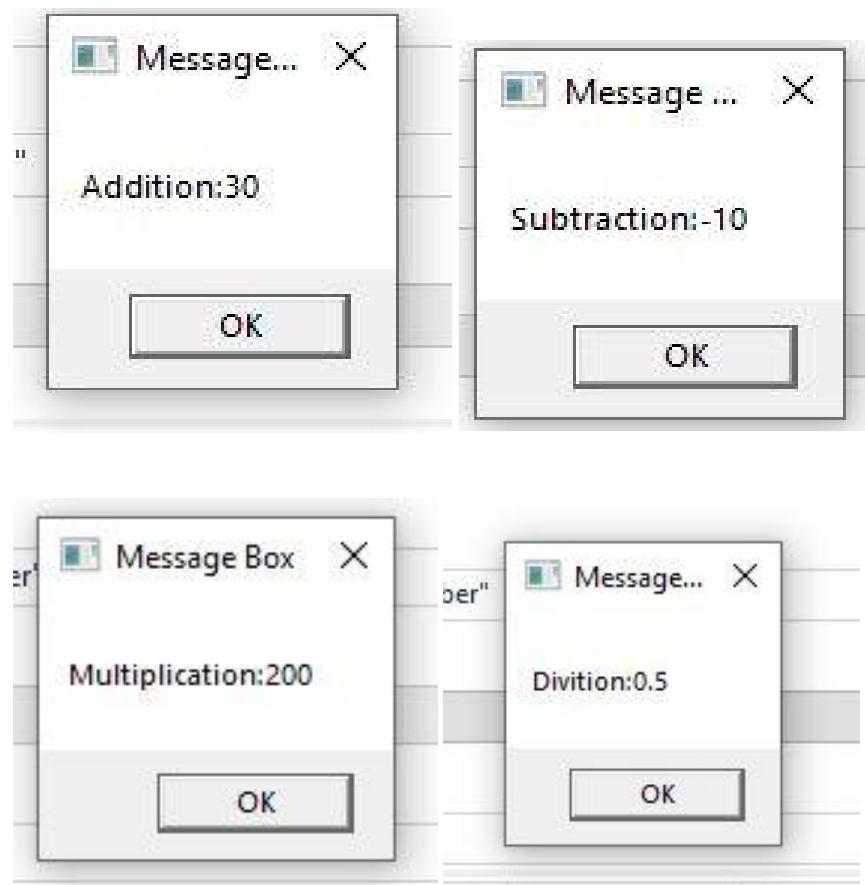
Name	Variable type	Scope	Default
FirstNum	Int32	Practical_2a	Enter a VB expression
SecondNum	Int32	Practical_2a	Enter a VB expression
<i>Create Variable</i>			



Input:



Output:



Question :

- b. Create an automation UiPath project using different types of variables (number, datetime, Boolean, generic, array, data table).

Introduction :

In the realm of Robotic Process Automation (RPA), UiPath stands out as a powerful platform that empowers organizations to automate repetitive tasks with efficiency and precision. One key aspect of UiPath's versatility lies in its support for various types of variables, allowing developers to handle diverse data and scenarios seamlessly. This introduction explores the creation of an UiPath automation project, emphasizing the utilization of different variable types, including numbers, date and time, Booleans, generics, arrays, and data tables.

Solution :

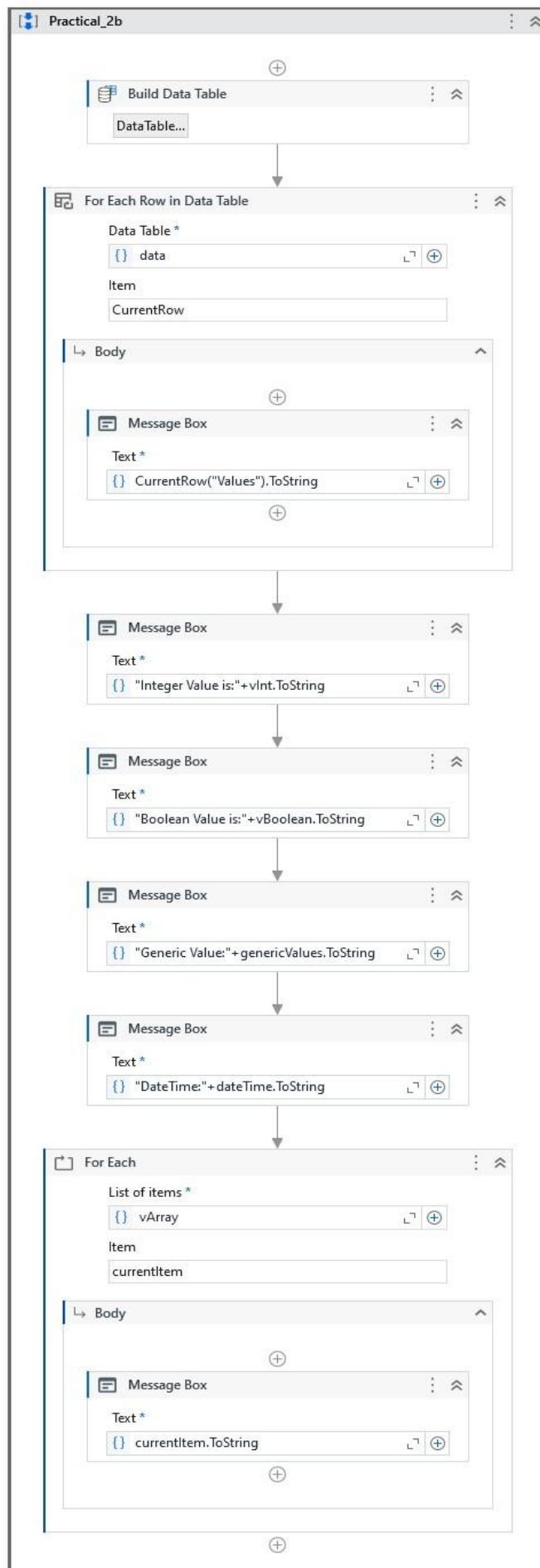
- a. Create the variables as given in the question and assign them default value like table below.

Name	Variable type	Scope	Default
vInt	Int32	Practical_2b	20
vBoolean	Boolean	Practical_2b	True
vArray	String[]	Practical_2b	{"a", "b", "c", "d"}
genericValues	GenericValue	Practical_2b	"Hi this is me"
dateTime	DateTime	Practical_2b	10/04/2021 07:00:00
data	DataTable	Practical_2b	Enter a VB expression
Create Variable			

- b. For data table automation select the **Build Data Table** from the activity.
- c. Inside build data table we can see Data Table remove all the default value of data table and assign custom values and click on ok.
- d. Select **For Each Row in Data Table** from the activity.
- e. Enter data table variable which we have defined as variable.
- f. Take message box and assign the table name of data table which we have give it.
- g. For other just take message box from the activity accept array and assign variable name to them.
- h. For Array take **For Each** from the activity.
- i. Assign variable name in list item.

j. Then take message box in the body of for each and assign item name to it.

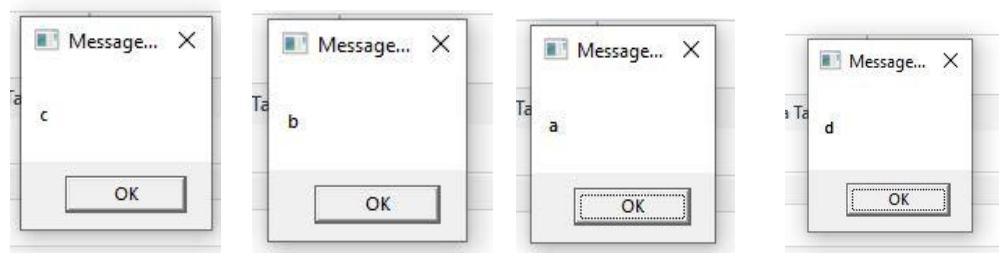
k. Run the Workflow:



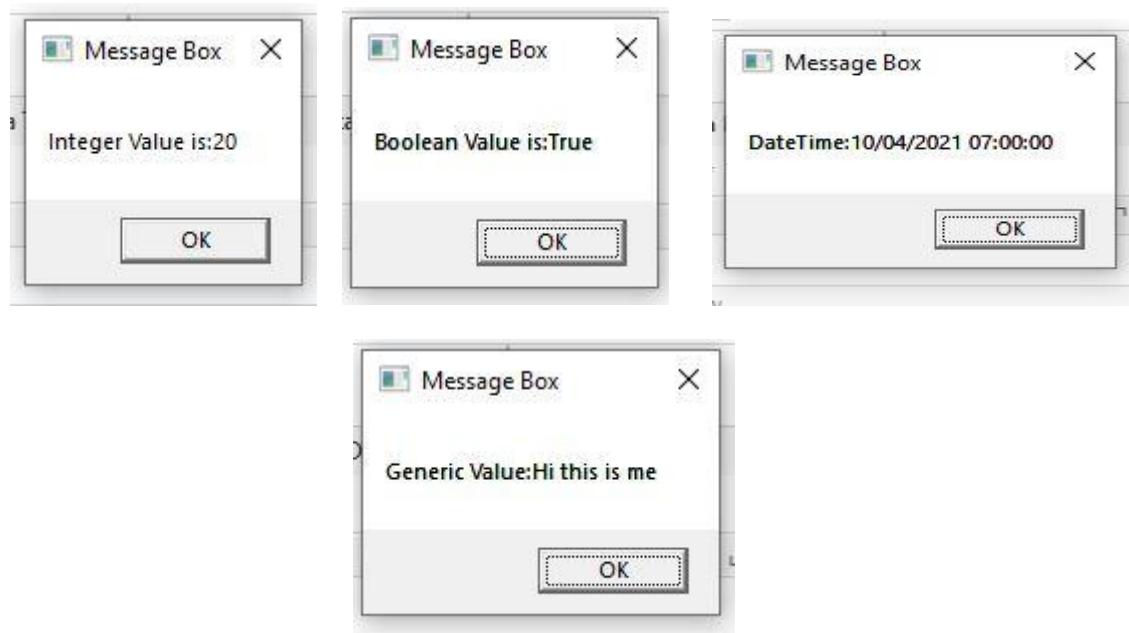
Data Table Output:



Array Output:



Other Outputs:



Practical 3

Question :

A. Create an automation UiPath Project using decision statements. (Number Guessing Game)

Introduction :

In this UiPath automation project, we present a captivating Number Guessing Game that seamlessly blends entertainment with the power of decision statements. Users engage with the automation by making guesses, and UiPath responds dynamically, showcasing its ability to handle interactive scenarios. This project not only demonstrates technical proficiency but also underscores UiPath's versatility in creating engaging and responsive automation solutions.

Solution :

1. Launch UiPath Studio and create a new sequence.

2. Add Input Dialog Activities:

- i. Drag a "Input Dialog" activity from the activities panel.
- ii. Configure it to get the number from the user , set the Title to "Number" and store the result in a variable, let's say, **user_number**.

3. Add a new variable:

Add a new variable called **random_number** and set it the vb expression as new

Random().Next(0,100)

4. Add a Flow decision:

Drag a Flow decision and set the condition to **user_number = random_number**

5. Add a Message box:

When the condition to the previous Flow Decision is True display the message in the message box as "Congratulations your guess is correct!!".

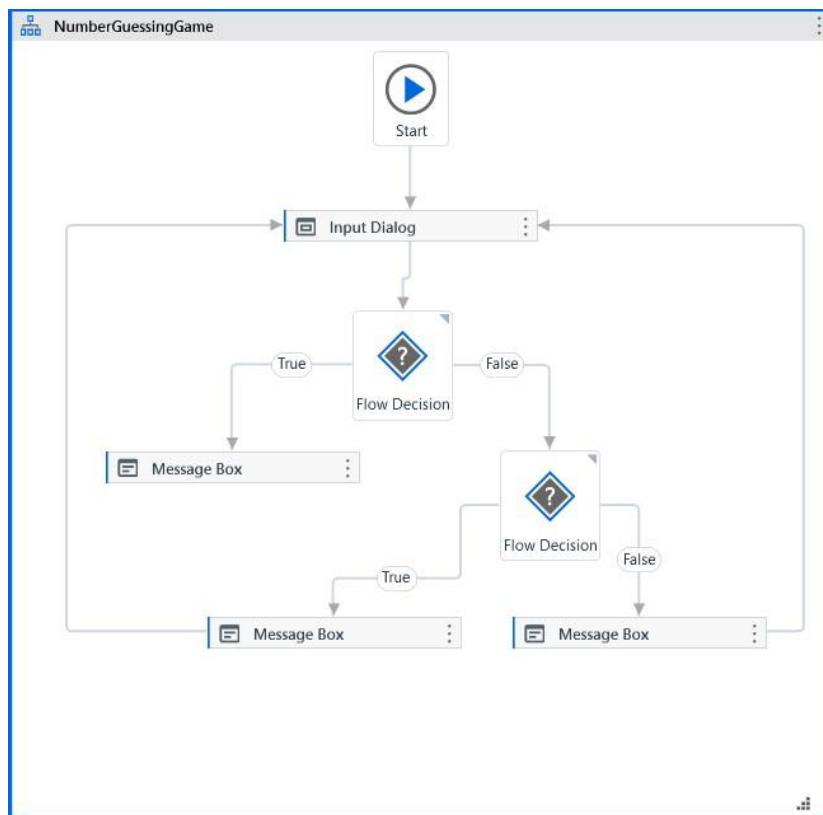
6. Add a Flow Decision :

Set the condition to the Flow Decision as **user_number >random_number**

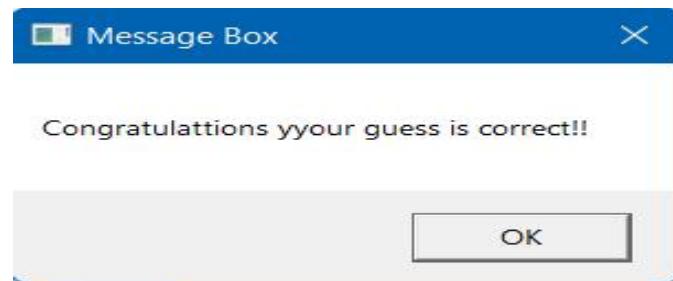
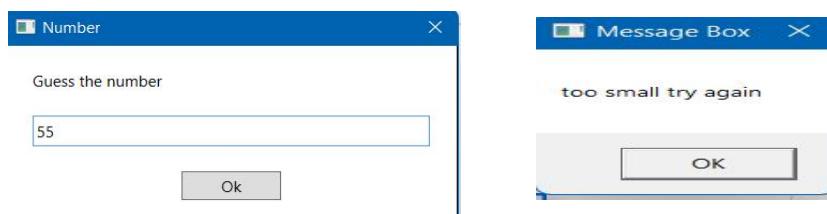
7. Add two Message box:

- i. Drag two message boxes
- ii. If true configure one message box to say "too big try again"

- iii. If false configure the other one to say "too small try again"
- iv. Connect both the message box to the input dialog to automate the process



Output :



Question :

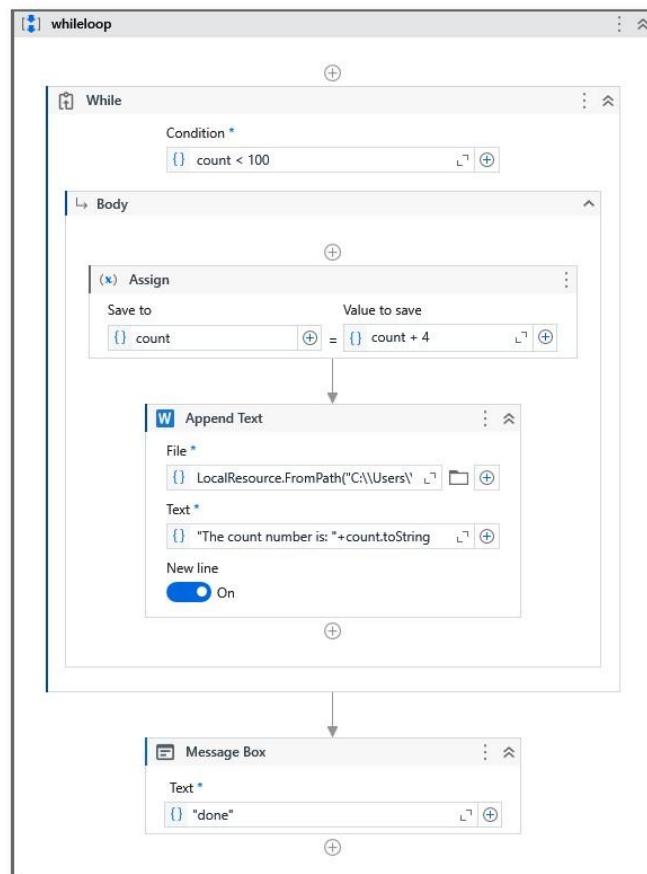
- b.Create an automation UiPath Project using looping statements.
i . While loop

Introduction :

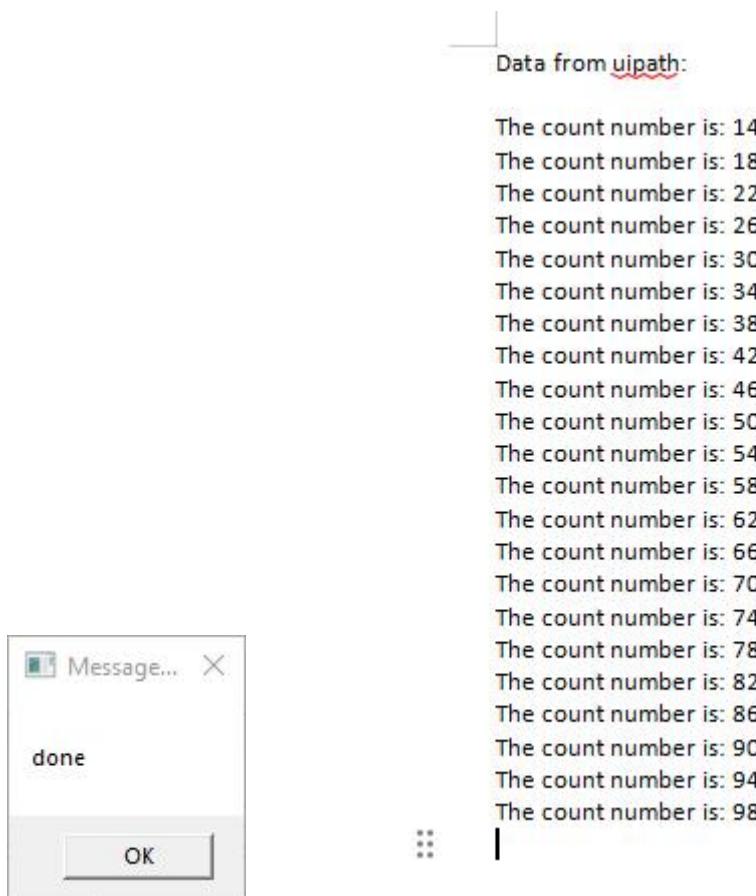
The While activity is used in automation to execute a statement or process based on a certain condition. If found true, the loop is executed; that is, the process is executed repeatedly. The project only exits from the loop when the condition does not hold true. This activity is useful while iterating through an array of elements.

Solution :

1. On a **Blank** project, add a **Sequence** activity.
2. Now, create an integer type variable Y. Set its default value to .
3. Next, add a **While** activity to the **Sequence**.
4. In the condition field, set $Y < 50$
5. Add an **Assign** activity to the body section of the **While** loop.
6. Now, go to the **Properties** panel of the **Assign** activity and type in the text field integer variable for value field integer $Y + 5$



Output :



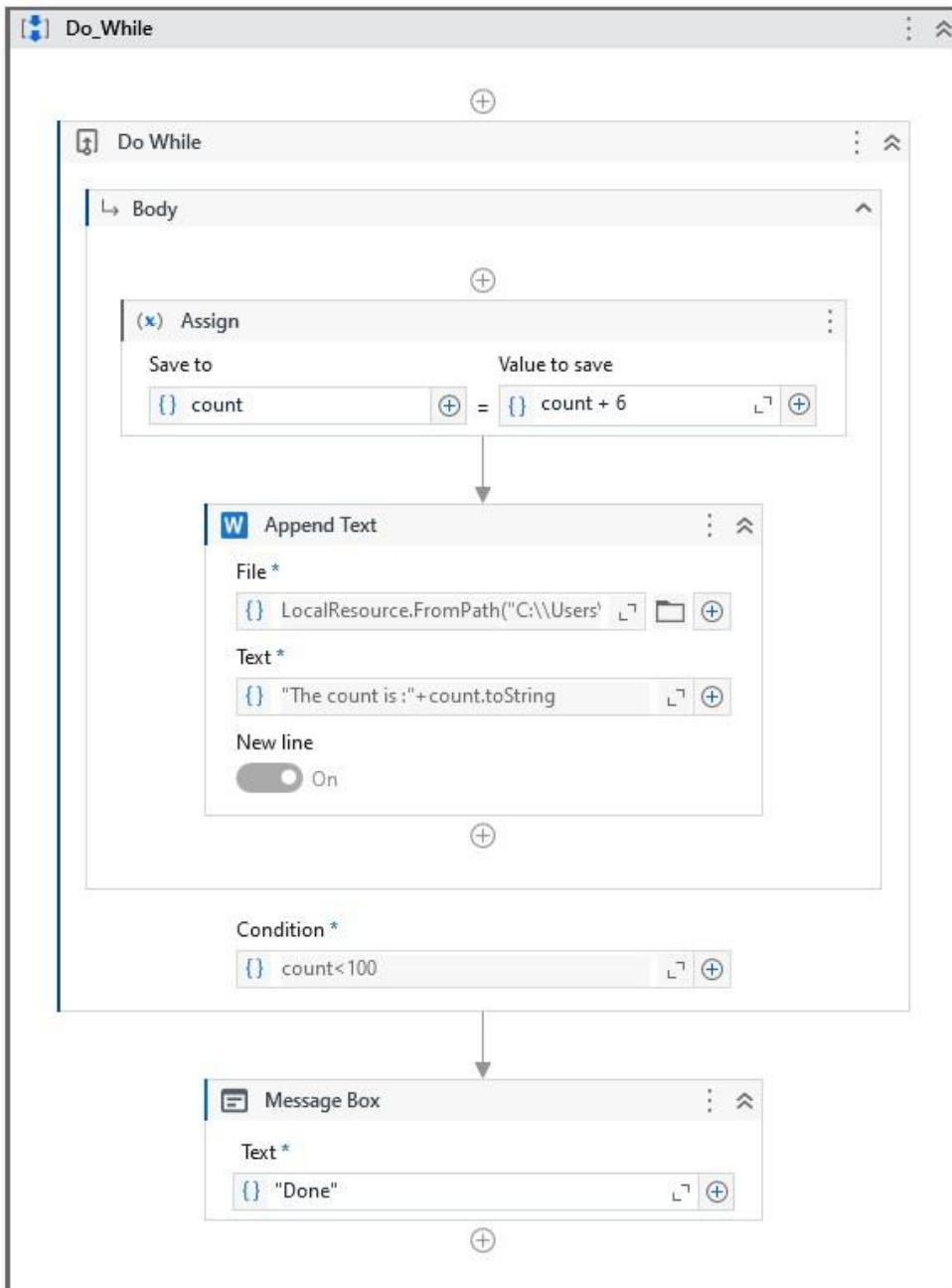
ii . Do While

Introduction:

The **Do while** activity is used in automation when it is required to execute a statement based on the fulfillment of a certain condition. How it differs from the While activity is that it executes a statement, then checks whether the condition is fulfilled. If the condition is not fulfilled, it exits the loop.

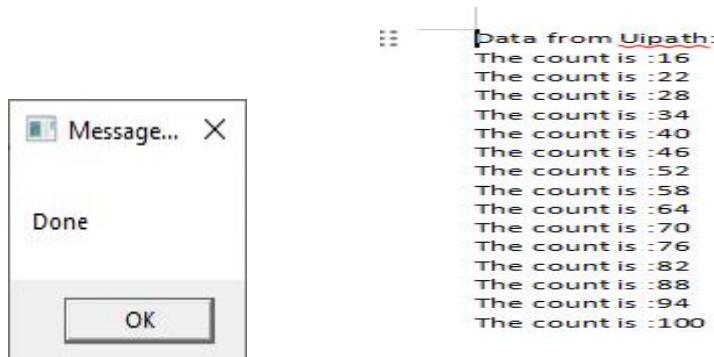
Solution:

1. Add a **Sequence** to the Designer panel.
2. Add a **Do while** activity from the **Activities** panel.
3. In the body section of the **Do while** activity, add an **Assign** activity.
4. Now, select the **Assign** activity. Go to the **Properties** panel and create an integer variable y. Set its default value to 2
5. Set Z y+2n the value section of the **Assign** activity to increment the result each time by until the loop is executed.
6. Add a **Write line** activity inside the **Assign** activity.
7. In the text field of the **Write line** activity, type y.
8. In the condition section, set the condition y<20 The loop will continue until the condition holds true



Output:

On clicking the Run button, the output displayed will be as follows:



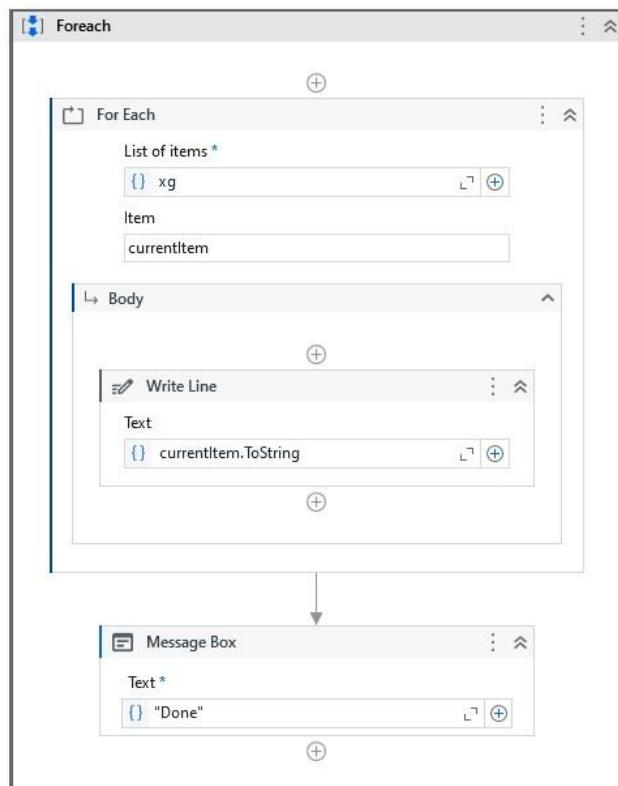
iii .For Each

Introduction:

The **For each** activity works by iterating each element from the collection of items or list of elements, one at a time. In the process, it will execute all the actions that are available inside the body. Thus, it iterates through the data and processes each piece of information separately.

Solution:

1. Start with a **Blank** project in UiPath.
2. Add a **Sequence** activity to the Designer panel.
3. Next, add a **For each** activity within the **Sequence** and create an integer type array variable, y
4. In the default value of the variable, put in `{2,4,6,8,10}`



Output:

7. Now, run the program. You will see that each number of the array is displayed one by one because of the use of the **For each** activity:



Practical 4

Question :

a . Automate any process using basic recording.

Introduction :

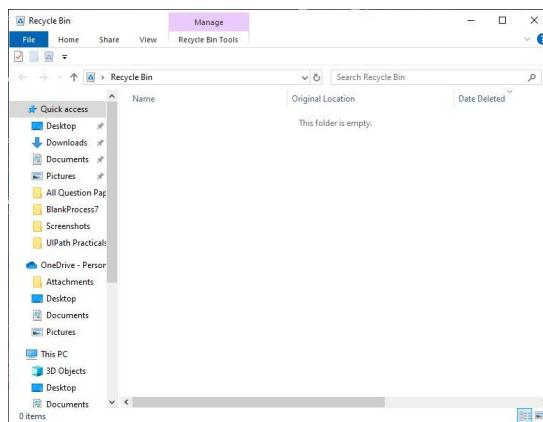
In UiPath, "Recording" refers to the process of capturing a series of user interactions with a computer application or a web browser, and then converting those interactions into a set of automation steps. UiPath offers different types of recording options to accommodate various scenarios. Here's an introduction to basic recording in UiPath:

Solution :

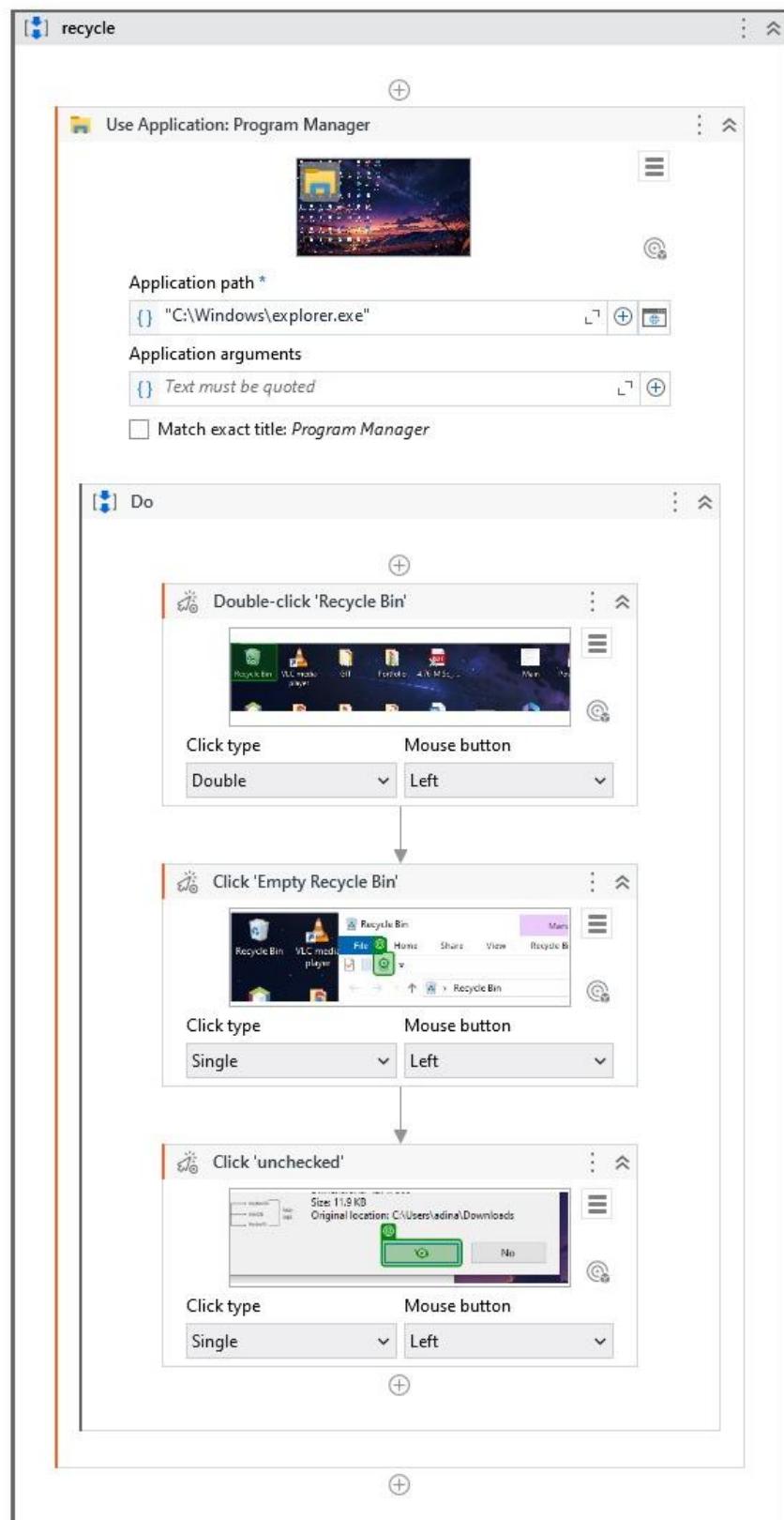
- Open UiPath Studio and create a new project.
- Use the "Basic Recording" feature to record actions on your desktop or within a specific application.
- Select the target application or region for recording.
- Perform the desired actions, such as clicking buttons or entering data.
- Stop the recording and UiPath Studio will generate a sequence of activities based on your interactions.

Here we will empty the Recycle bin using basic recorder.

Output :



The flow will look like :



Question :

- B. Automate any process using desktop recording.

Introduction :

The practical focuses on leveraging UiPath's desktop recording feature to automate a particular process, and in this case, the task involves recording user interactions with the Notepad application. The primary goal is to demonstrate the effectiveness of desktop recording in capturing repetitive actions, enabling the creation of an automated script that can replicate these steps with precision

Solution :

1. Launch UiPath Studio and create a new sequence.

2. Add Use application/browser in the Activity bar:

3. Indicate the app to be automated:

Click on indicate the app to be automate and select it in this case we are using notepad

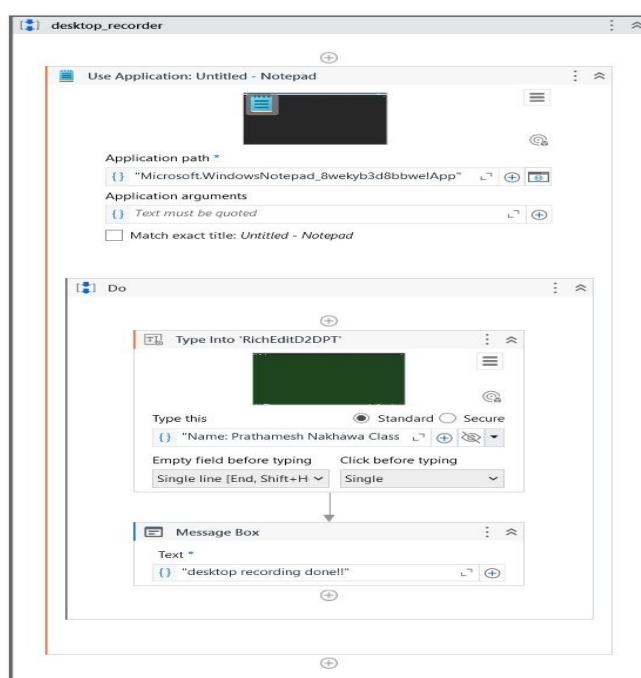
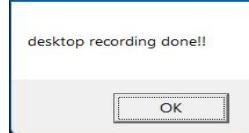
4. Record the Desktop:

I. Select the recording option in UiPath and select desktop to record the desktop

II. Start using the app to be automated here in this case we write a few lines in notepad to automate

5. Add a message box:

Drag a message box and configure to give the text "desktop recording done!!" after the automation is complete

**Output :**

Question :

- c. Automate any process using web recording.

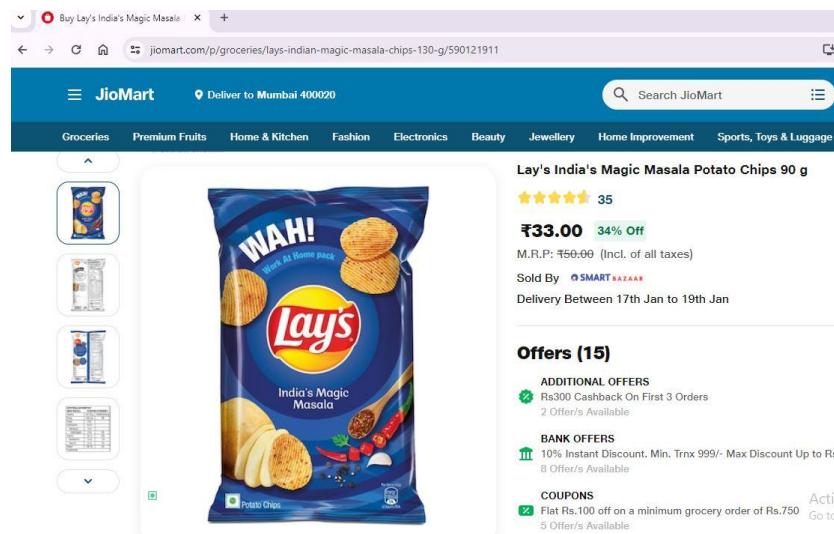
Introduction :

The practical focuses on leveraging UiPath's web recording feature to automate a particular process, and in this case, the task involves recording user interactions with the Notepad application. The primary goal is to demonstrate the effectiveness of desktop recording in capturing repetitive actions, enabling the creation of an automated script that can replicate these steps with precision

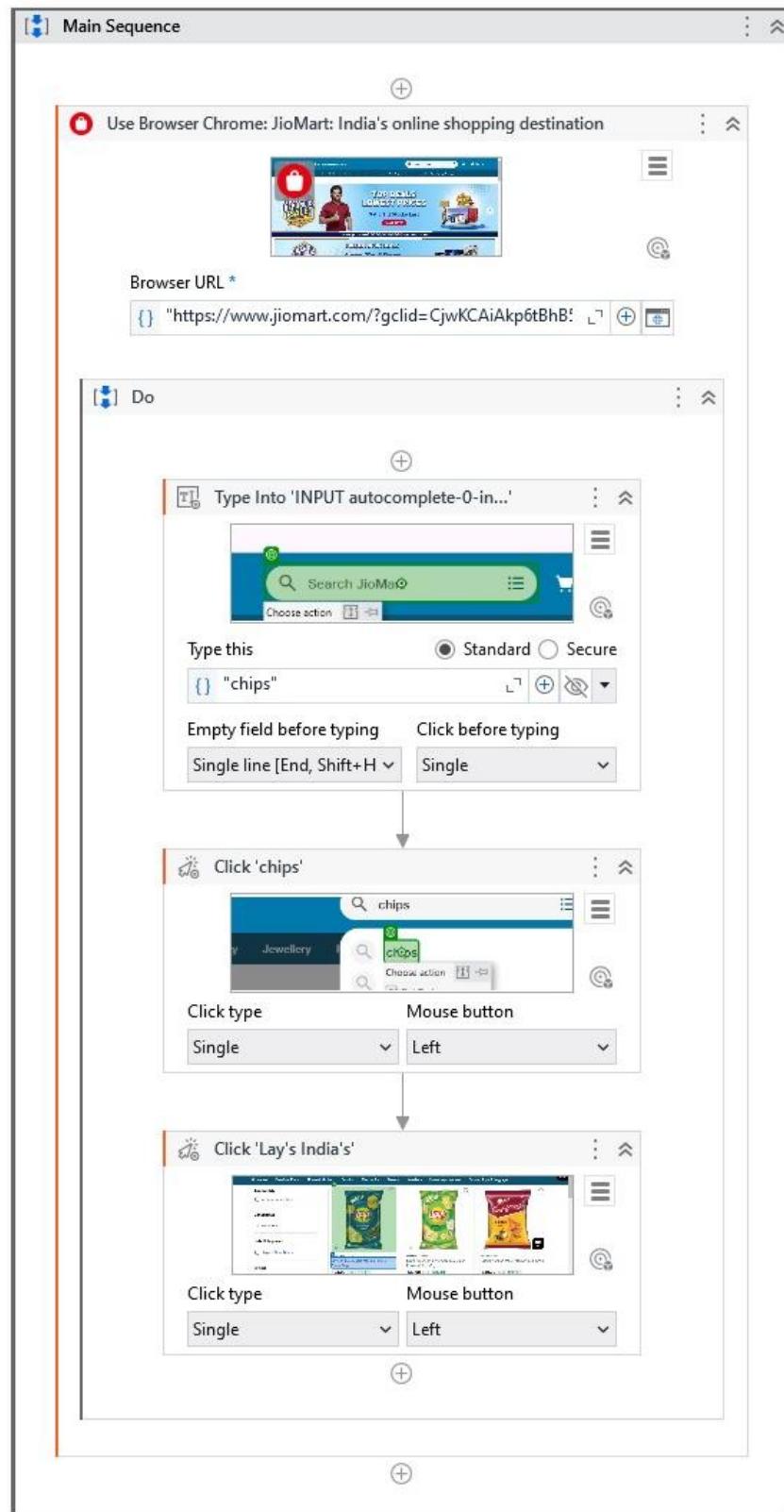
Solution :

- For automating tasks within a web browser, use the "Web Recording" feature.
- Open UiPath Studio and create a new project.
- Use "Web Recording" to record actions within a web browser.
- Navigate to the target web page and perform the desired actions like clicking links or filling forms.
- Stop the recording, and UiPath Studio will generate a sequence of activities for the web automation.
- We will automate JioMart website and search for “Chips”

Output :



The sequence may look like :



Practical 5

Question :

Consider an array of names. We have to find out how many of them start with the letter "a". Create an automation where the number of names starting with "a" is counted and the result is displayed.

Introduction :

In this practical we will create a process which will find the count of alphabet in an Array of names . Imagine having a list of names and wanting to know how many kick off with the letter "a." Picture a system that automatically counts how many names start with "a" and tells you the result. It's like magic, but with technology! Join us in this simple journey where we turn a bunch of names into useful info, all with the power of automation. Let's make name counting a breeze!

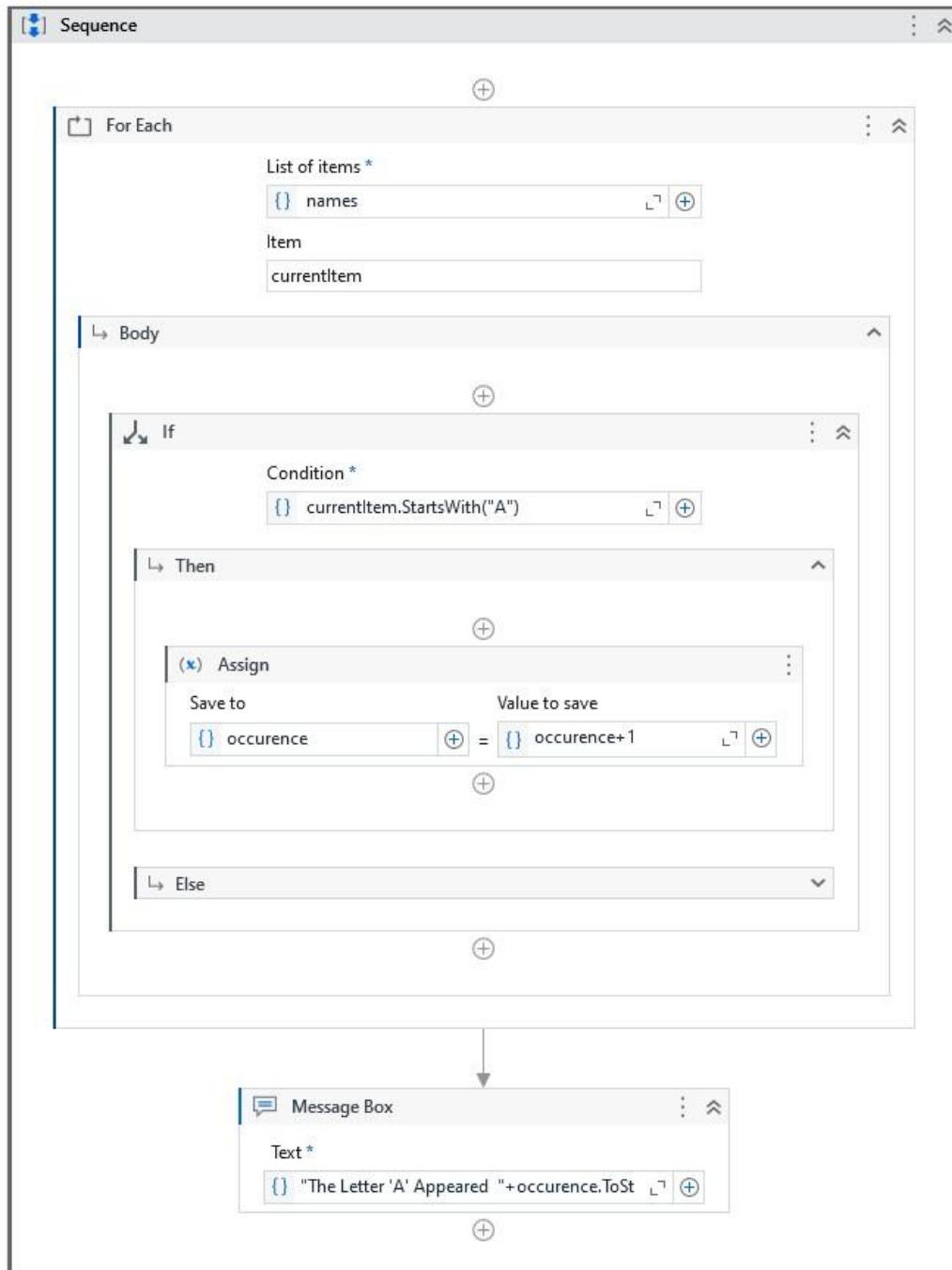
Solution :

1. We create an array of names in the variables section. Select Variable Type as String[] and enter the names you require.

Name	Variable type	Scope	Default
names	String[]	Sequence	{"Ayesha", "Adin", "Alex", "Amoeba"}
occurrence	Int32	Sequence	Enter a VB expression
<i>Create Variable</i>			

2. We create a sequence having For each loop which will iterate over the list created

3. In body we take if-else and mention condition to check for words starting with “A” the count will be saved in a new variable which we create using Assign activity and name it as “occurrence”



4. Lastly we print the answer in a Message box and display the count of times “a” appeared.



Practical 6

Question :

a . Create an application automating the read, write and append operation on excel file.

Introduction :

Automating read, write, and append operations on Excel files in UiPath is a fundamental aspect of data manipulation and processing within automation workflows. UiPath provides a set of activities specifically designed for Excel automation, making it efficient to interact with Excel files. Here's a brief introduction:

■ Reading Data (Read Range):

Use the "Read Range" activity in UiPath to extract data from an Excel file.

Specify the range or sheet from which to read data.

The output is typically a DataTable, allowing for further processing in the workflow.

■ Writing Data (Write Range):

The "Write Range" activity enables the automation of writing data to an Excel file.

Define the target range or sheet where data should be written.

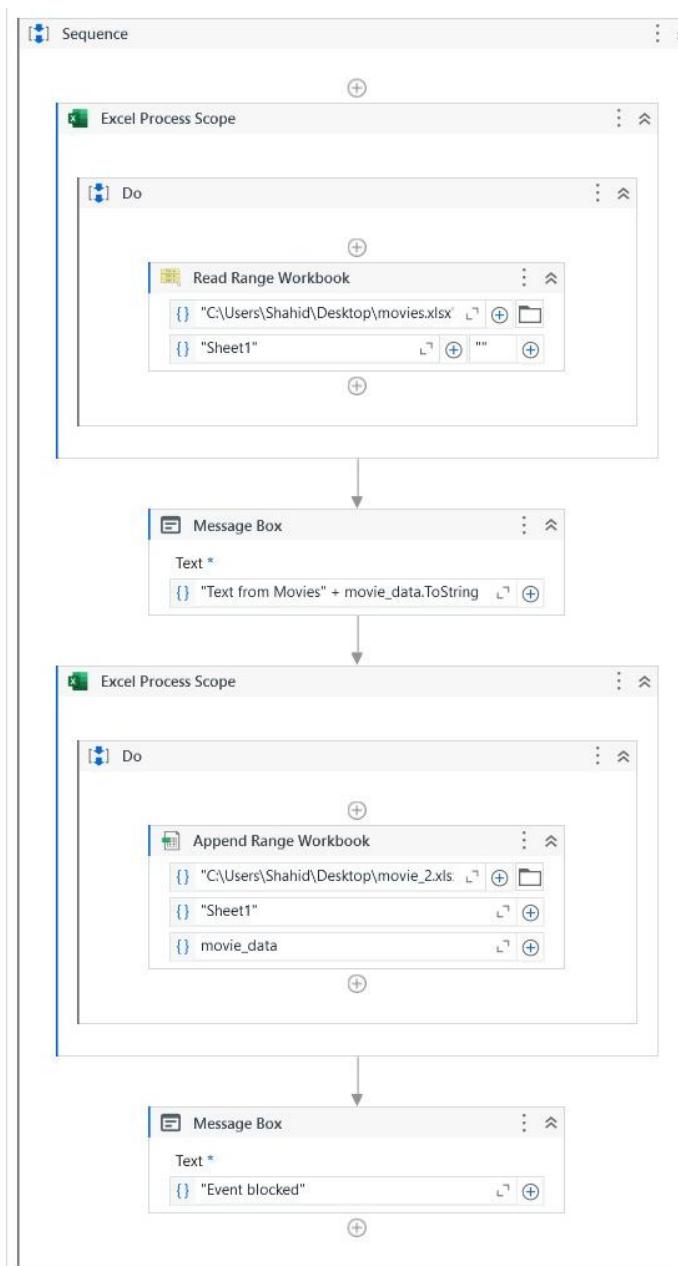
Input data can be a DataTable or any other suitable format.

■ Appending Data (Append Range):

When you want to add new data to an existing Excel file, use the "Append Range" activity.

Specify the sheet and range where the new data should be appended.

Solution :



Output :

	A	B	C	D	E
1	Movies				
2	Pathaan				
3	Jawan				
4	Tiger 2				
5					
6					
7					

Question :

B. Automate the process to extract data from an excel file into a data table and vice versa

Introduction :

In the ever-evolving landscape of data-driven decision-making, efficiency in handling data becomes paramount. To address the need for seamless data interchange between Excel files and data tables, I embarked on a project leveraging UiPath to automate the extraction and integration processes. This project aims to demonstrate the power of automation in enhancing data management tasks, specifically focusing on the bidirectional transfer of information between Excel files and data tables.

Solution :

Launch UiPath Studio and create a new project.

1. Read Excel File:

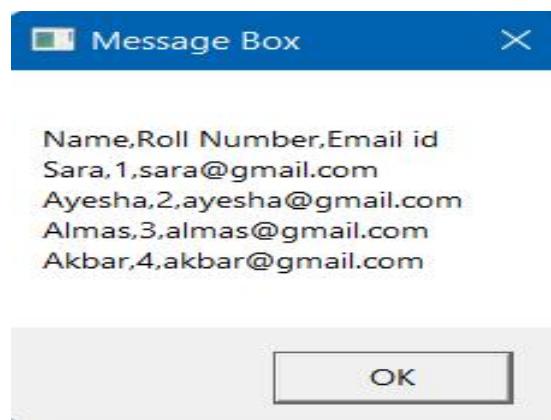
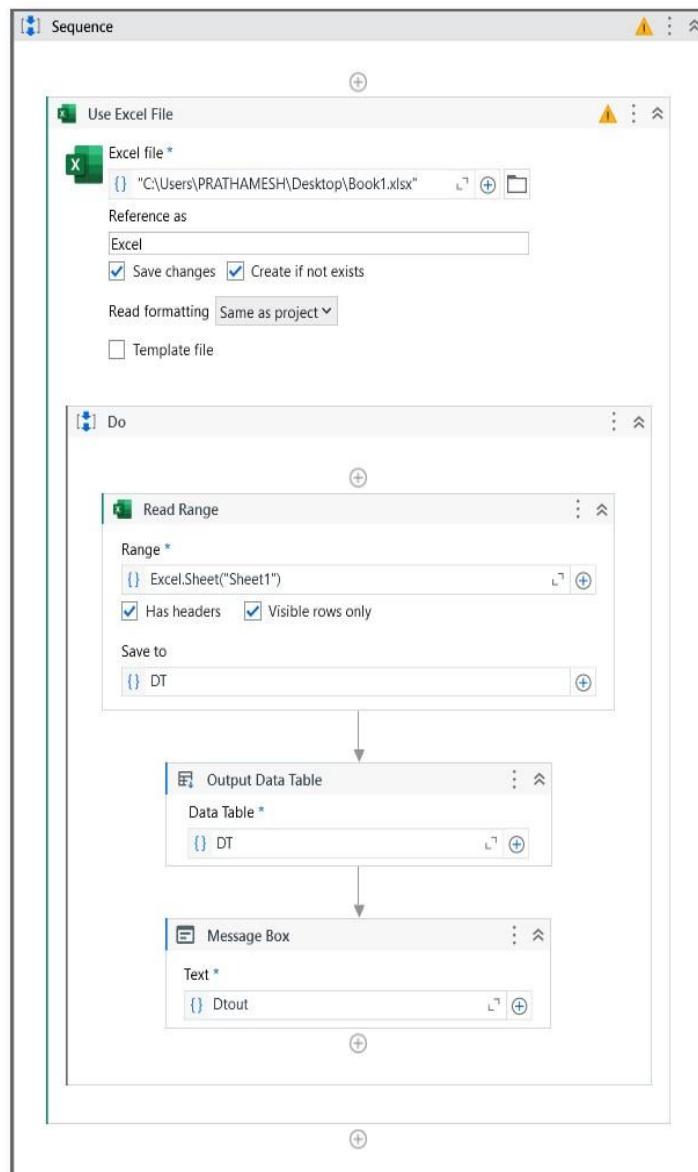
- I. Use the "Excel Application Scope" activity to specify the Excel file you want to extract data from.
- II. Within the scope, add the "Read Range" activity to read the data from a specific sheet and store it in a DataTable variable.

2. Data Table Operations:

Perform any necessary operations on the DataTable, such as filtering, sorting, or cleaning the data.

3. Log or Display Data:

Use the "Output Data Table" activity or write log messages to display or log the extracted data for verification during testing.

Output :

Practical No. 7

Question :

- a. Implement the attach window activity

Introduction :

In UiPath Studio, the Attach Window activity is a fundamental component used in Robotic Process Automation (RPA) to interact with elements within a specific application window. This activity plays a crucial role in automating tasks where multiple windows or applications are involved. The Attach Window activity helps UiPath robots focus their actions within a designated window, ensuring precise and efficient automation.

Steps for Performing Attach Windows Activity in UiPath Studio:

1. Open UiPath Studio:

Launch UiPath Studio and open the project where you want to implement the Attach Window activity. If you don't have a project yet, create a new one based on your automation requirements.

2. Drag and Drop Attach Window Activity:

Locate the "Activities" panel on the left side of the UiPath Studio interface. In the "Available" tab, search for the "Attach Window" activity. Drag and drop this activity onto the workflow where you want to interact with a specific window.

3. Configure Selector:

Within the Attach Window activity, you'll need to configure the "Selector" property. The selector is a unique identifier that helps UiPath Studio recognize and target the correct application window. Click on the "Indicate on Screen" button, and then select the target window by clicking on it. UiPath Studio will generate a selector based on the window's properties.

4. Optional: Fine-Tune Selector:

Review the generated selector to ensure it accurately identifies the target window. You may need to fine-tune the selector by adjusting the properties if necessary. The goal is to create a robust selector that uniquely identifies the window and remains stable across different executions.

5. Inside Attach Window Activity:

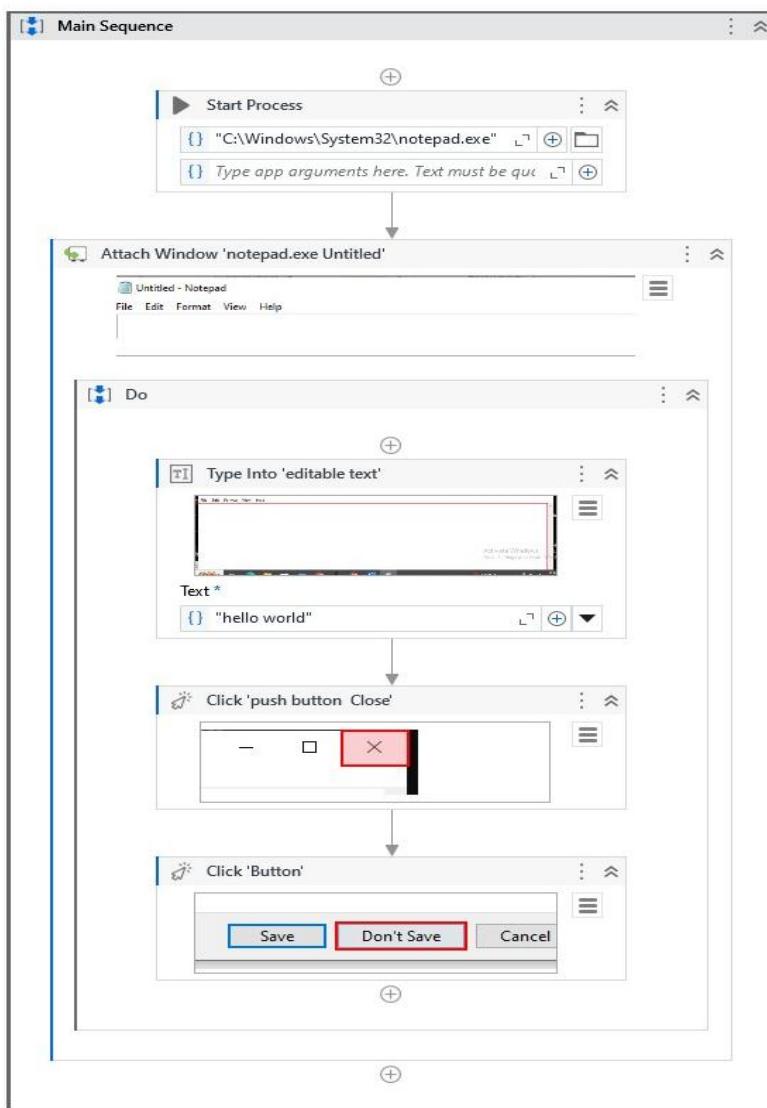
Once the Attach Window activity is configured, you can add additional activities inside it. These activities will now be executed within the context of the specified window. Drag and drop relevant activities, such as clicking buttons, typing into text fields, or extracting data, to automate the desired tasks within the attached window.

6. Repeat for Multiple Windows:

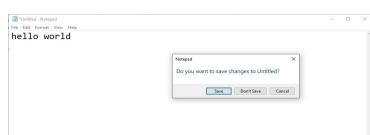
If your automation involves interactions with multiple windows or applications, repeat the process by adding additional Attach Window activities. This helps organize and structure your automation workflow, ensuring that each set of actions is performed within the appropriate window

7. Test and Debug:

Before deploying your automation, thoroughly test and debug the workflow to ensure it performs as expected. Use UiPath Studio's debugging tools to step through the process and identify any issues.



Output :

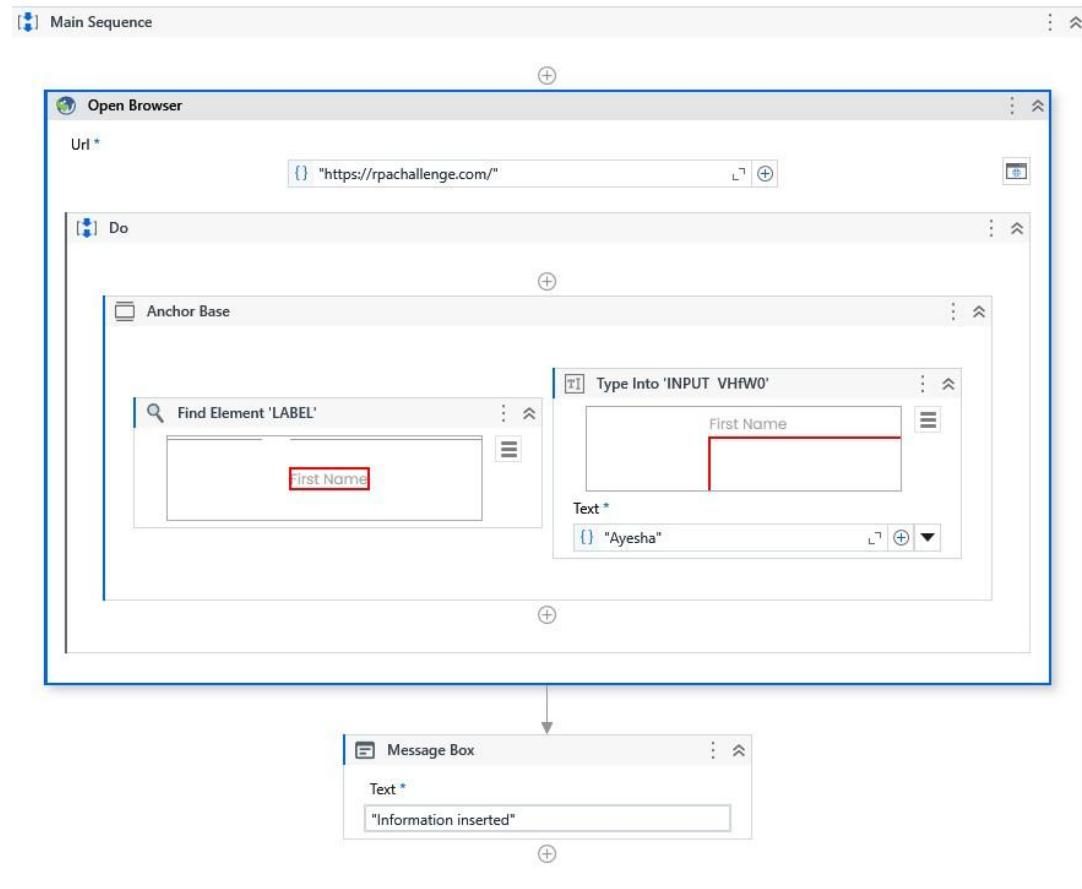


Question :

- b. Find different controls using UiPath.

i.Anchor Base and Find Element**Introduction :**

UiPath empowers automation through diverse controls. Activities serve as workflow steps, spanning interactions with applications, files, and databases. Flow controls such as sequences, flowcharts, and conditional branches manage the workflow. Data input/output controls, including input dialogs and message boxes, facilitate user interaction. Error handling mechanisms like Try Catch ensure smooth execution. UI controls like Click, Type Into, and Get Text automate interactions with graphical interfaces. Variable and argument controls manage data, while Excel and Data Table controls handle spreadsheet operations. The Invoke Code activity allows integration of custom code. This comprehensive suite equips users to create versatile and efficient automation workflows.

Solution :

Output:

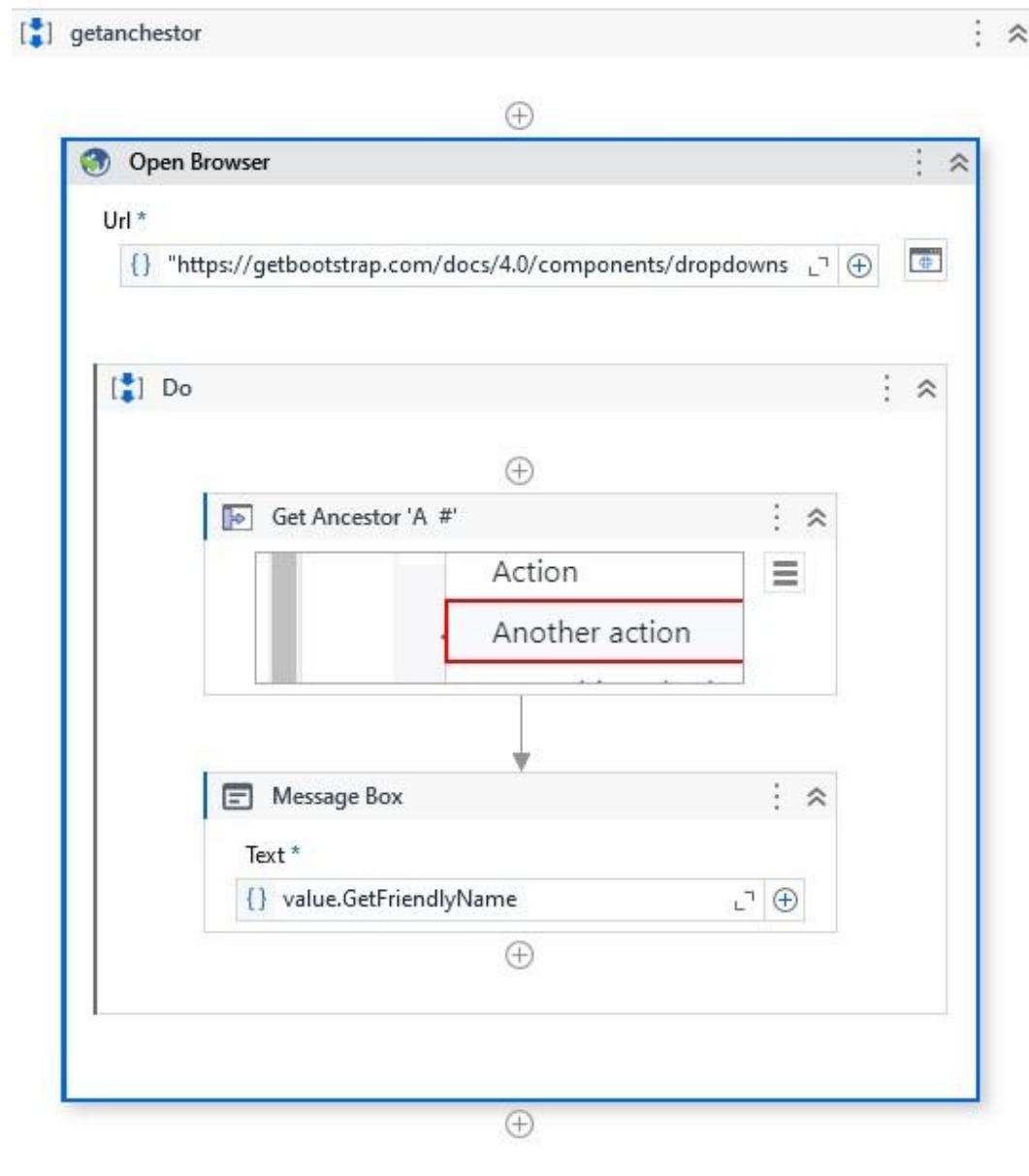


First Name

Ayesha

SUBMIT

ii . Get ancestor



The screenshot shows a workflow editor interface with three main components:

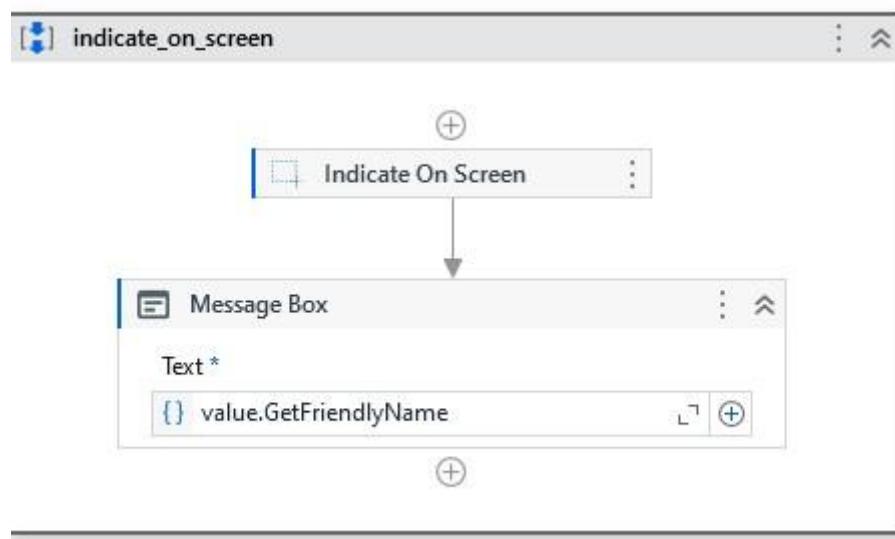
- Open Browser:** A step with a URL input field containing "https://getbootstrap.com/docs/4.0/components/dropdowns".
- Do:** A step containing a "Get Ancestor 'A #'" action. This action has two parallel paths: one labeled "Action" and another labeled "Another action".
- Message Box:** A step with a Text input field containing "value.GetFriendlyName".

The "Action" path from the "Get Ancestor" action is connected to the "Text" input field of the "Message Box" step.

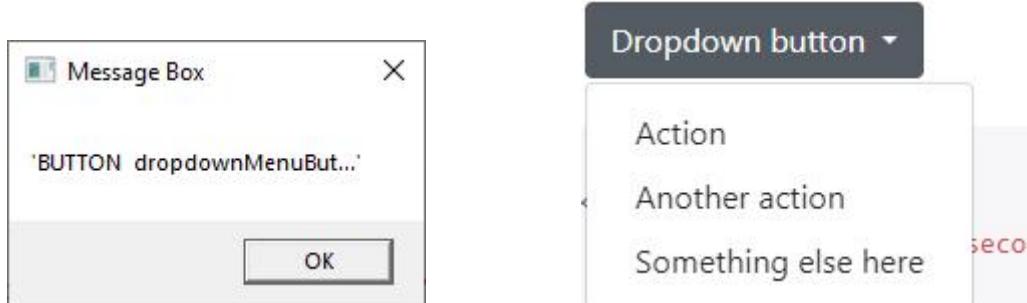
Output:



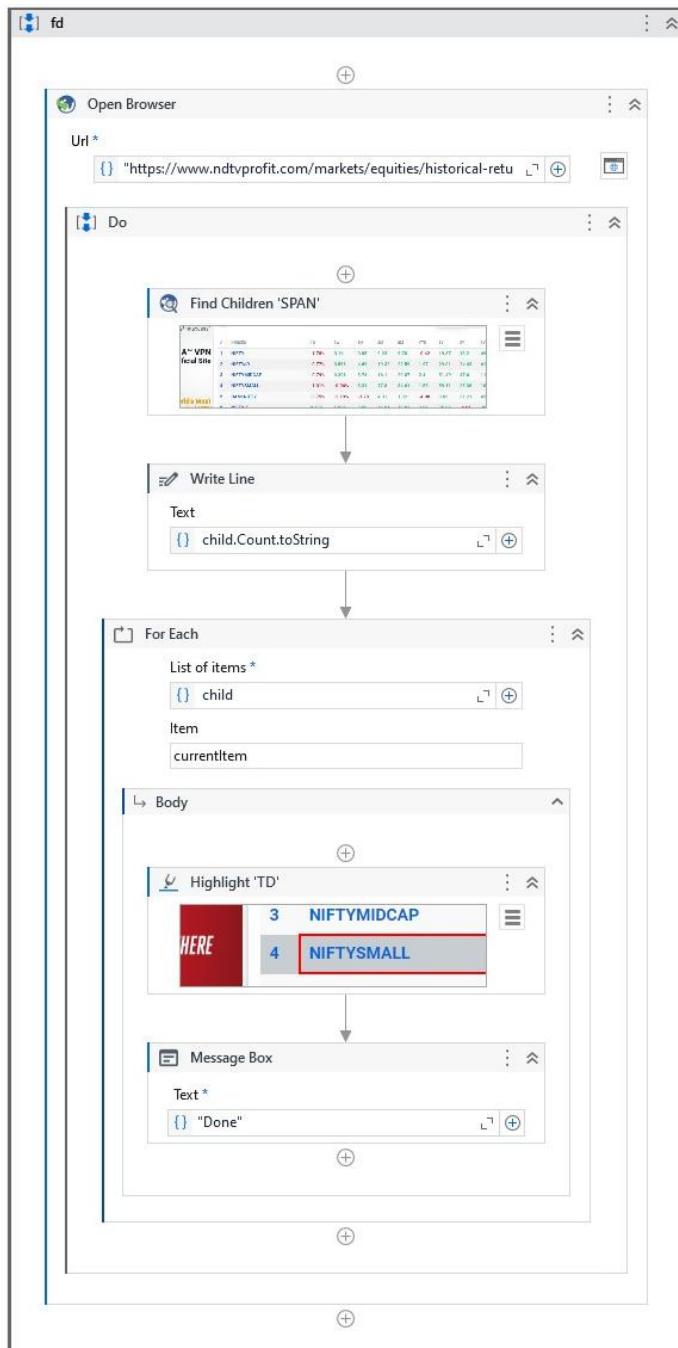
iii.indicate On Screen



Output:



iv.Find Children



Output:

The output consists of a message box and a table:

Message...

Done

OK

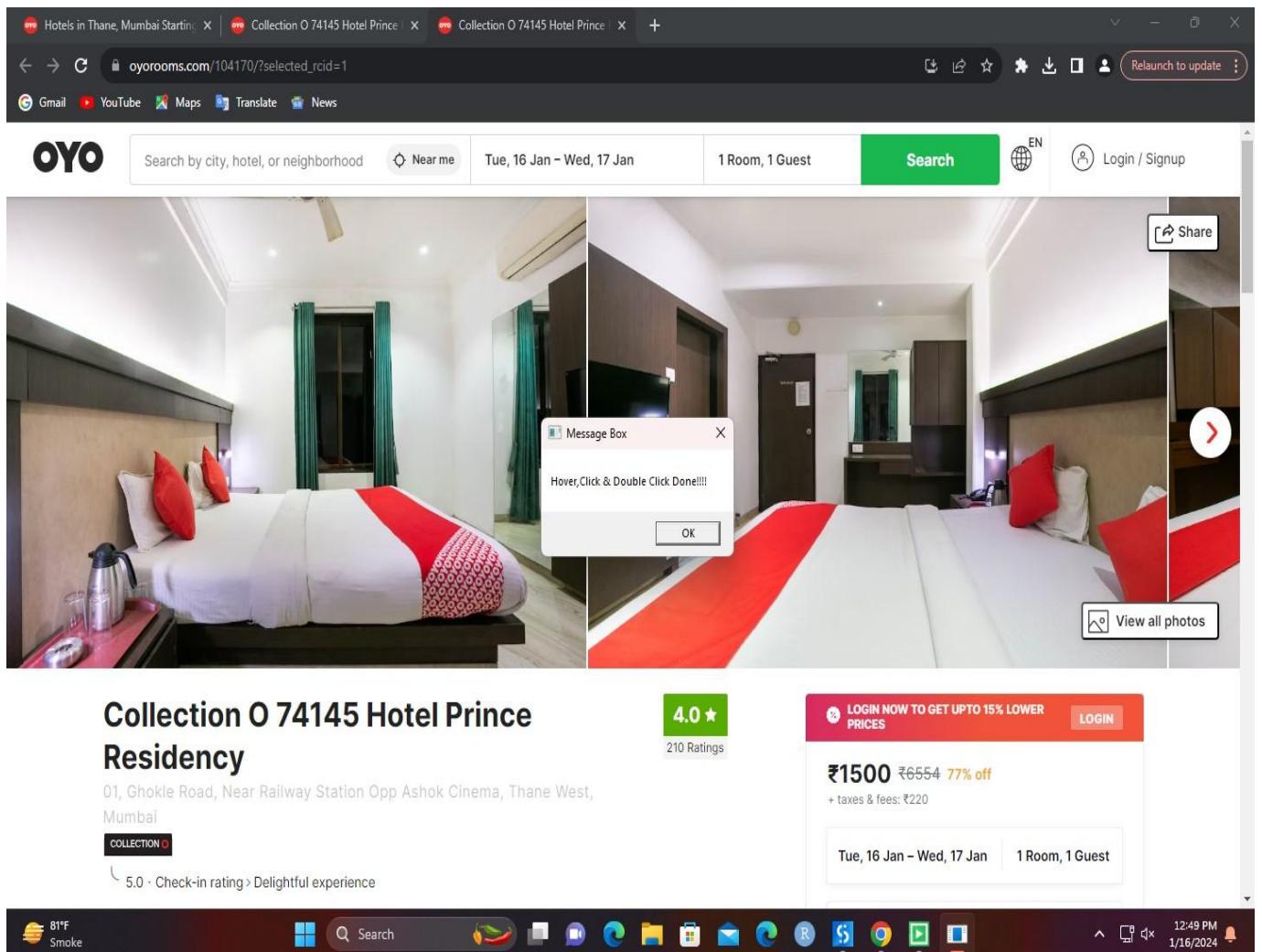
2	NIFTYJR	-0.61%	0.75%	4.86	19.51	22.79
3	NIFTYMIDCAP	-0.65%	0.53%	3.89	16.26	29.25
4	NIFTYSMALL	-0.87%	0.09%	3.46	17.97	34.81

Question :

c. Demonstrate the following activities in UiPath:

i. Mouse (Click, Double click & Hover)

1. Mouse Click Activity:
 - Mouse "Click" activity is used to simulate a left or right button click on a specified UI element.
 - Specifies the UI element on which the click operation will be performed.
2. Mouse double-Click Activity:
 - The "Double Click" activity is used to simulate a rapid succession of two left or right mouse button clicks on a specified UI element.
 - Specifies the UI element on which the double-click operation will be performed.
3. Mouse hover:
 - The "Hover" activity is used to simulate moving the mouse pointer over a specified UI element without clicking.
 - Specifies the UI element over which the mouse pointer will hover.

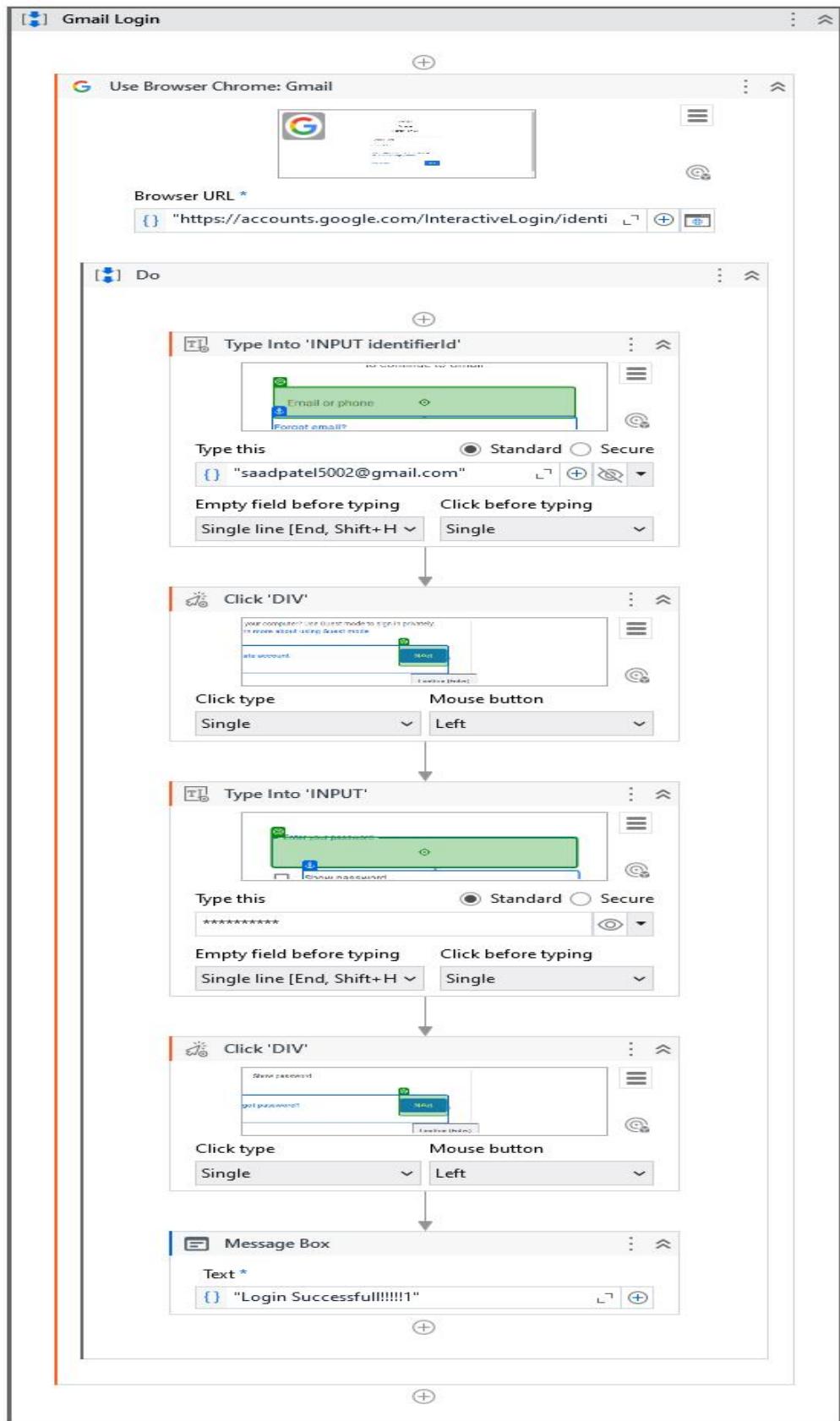


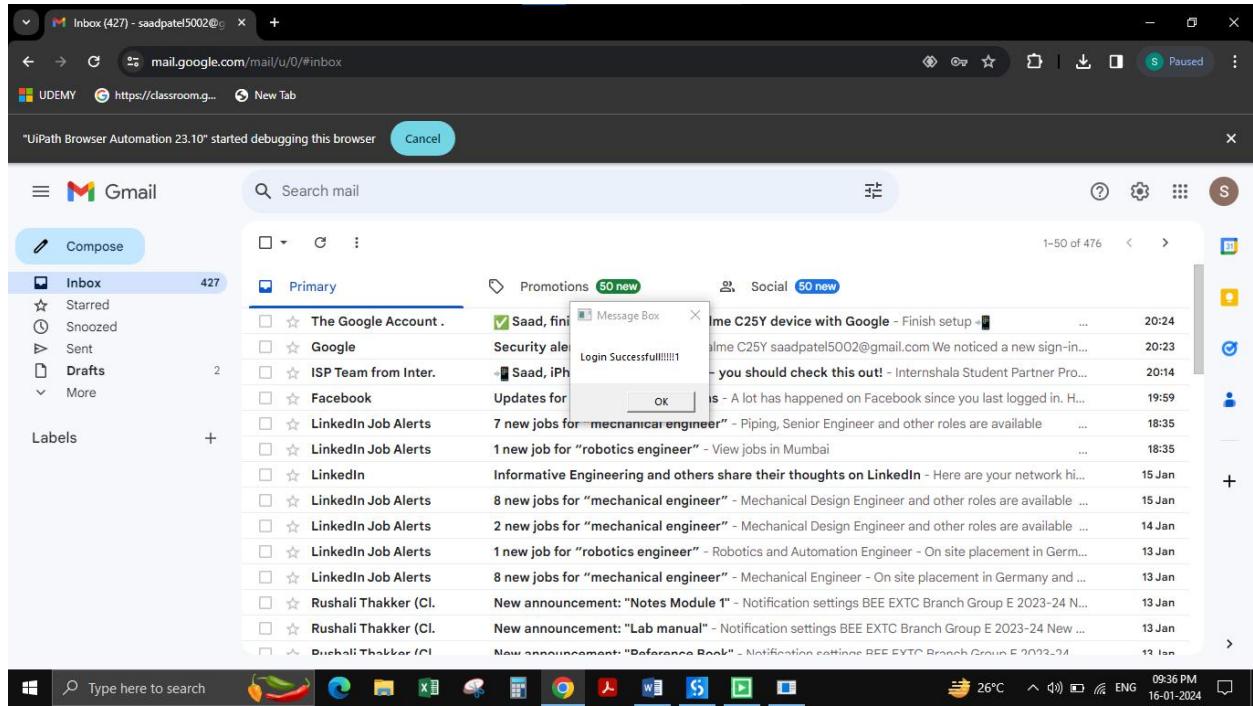
ii. Type into

The "Type Into" activity is used to simulate keyboard input, allowing you to type text into a specified UI element.

iii. Type secure text

The "Type Secure Text" activity is similar to the "Type Into" activity but is specifically designed for entering sensitive information, such as passwords, in a more secure manner.





Windows Type here to search 26°C 09:36 PM 16-01-2024

Practical 8

Question :

a .Demonstrate the following events in UiPath:

i. Element triggering event

Introduction :

Element triggering event ignites dynamic reactions, catalyzing change. Whether in nature or design, it sparks impactful responses, altering perspectives and fostering transformative moments.

Solution :

1. Element triggering event:

In the Element Trigger, there are two activities that come into play.

- Click Trigger

This event occurs when a specified UI element is clicked.

Before using the Click trigger, we have to use the Monitor event activity.

Without Monitor events, the Click trigger can't be used.

[+] Click_Triggering

Trigger Scope

Triggers

LOCAL TRIGGER

Click Event Trigger 'editable text'

Mouse button: Left

Trigger mode: Down

Block event

Include children

Actions

MonitorClickEventArgs

args

Sequence

Use Application: Untitled - Notepad

Application path *: "C:\Windows\System32\notepad.exe"

Application arguments: Text must be quoted

Match exact title: Untitled - Notepad

Do

Message Box

Text *: "Click Event trigger done!!!!"

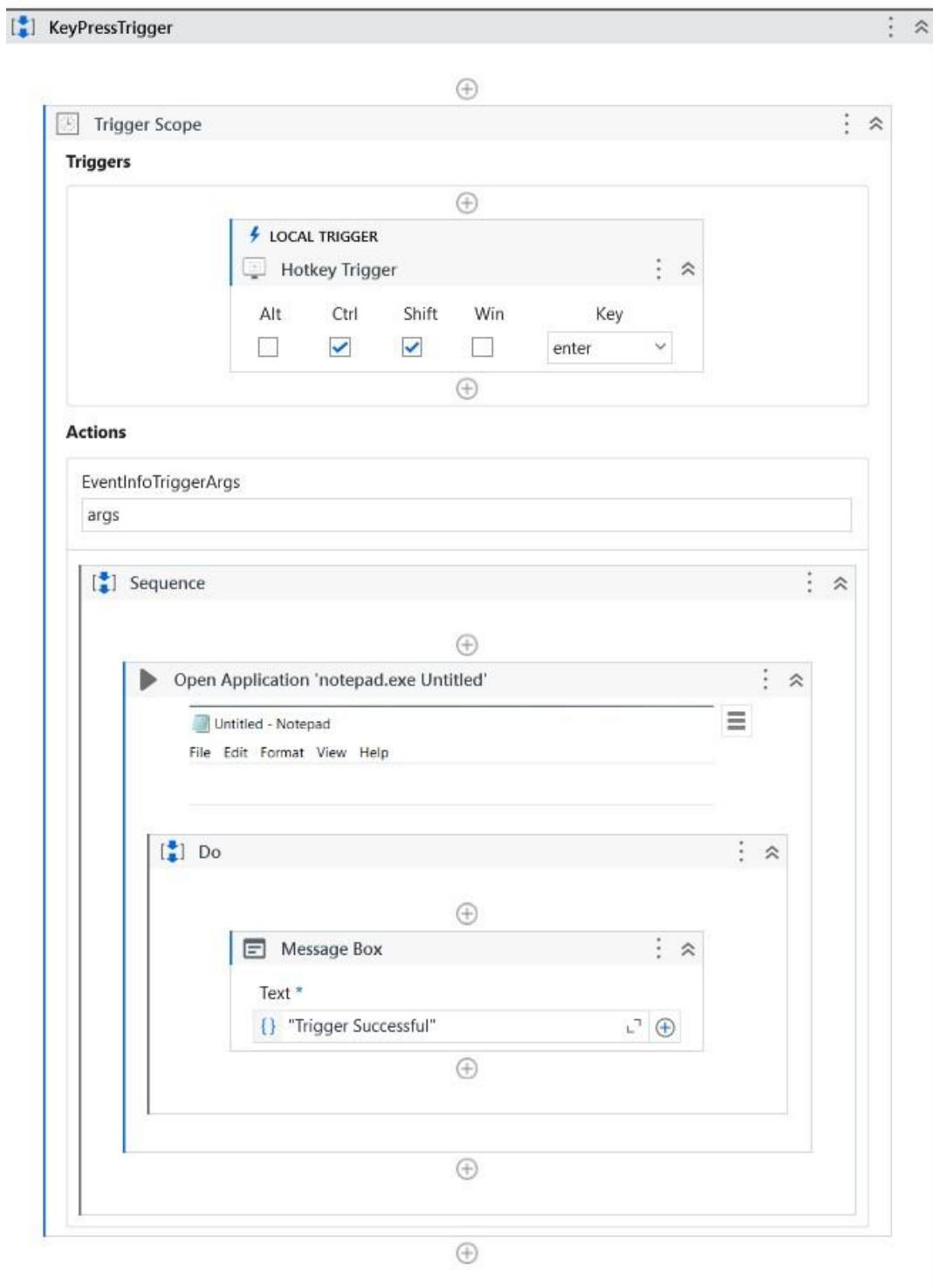
Output:



■ Key Press Trigger

Introduction

It is used when we need to trigger events by pressing a certain key or key-combination. Indicate the UI element on which you want to perform the action. When the keys are pressed on the specified UI element, the event handler will be called.



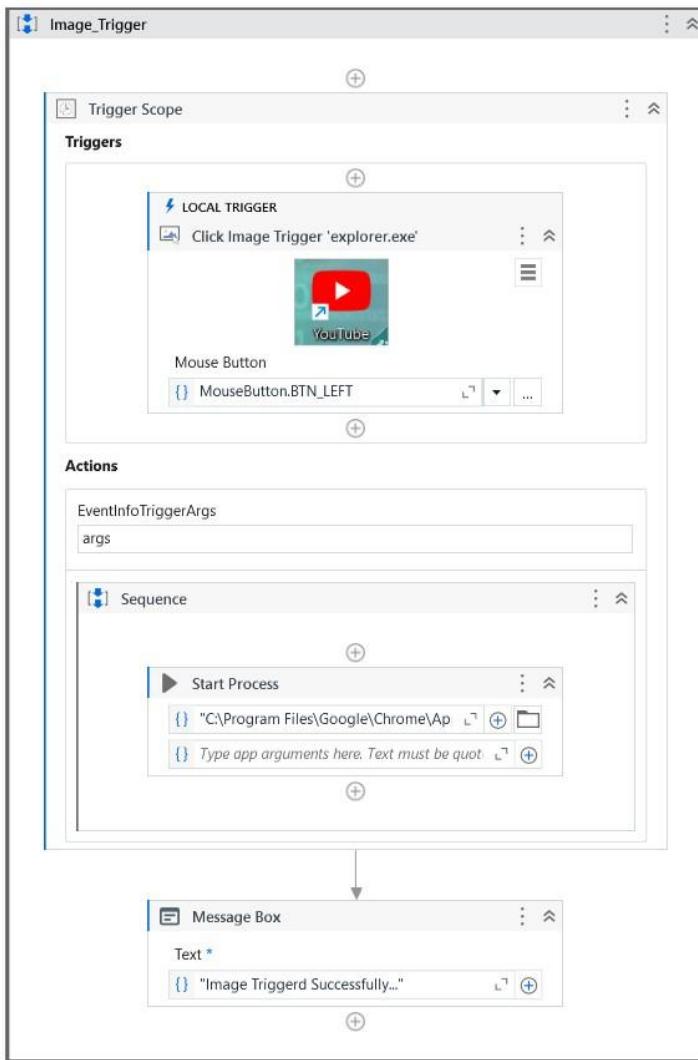
Output:

■ ii. Image triggering event

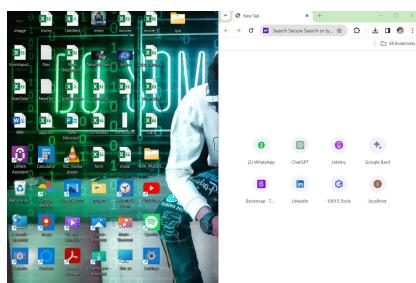
Introduction:

A captivating visual moment that sparks emotions, evokes reactions, and leaves a lasting impact through powerful imagery.

Solution:



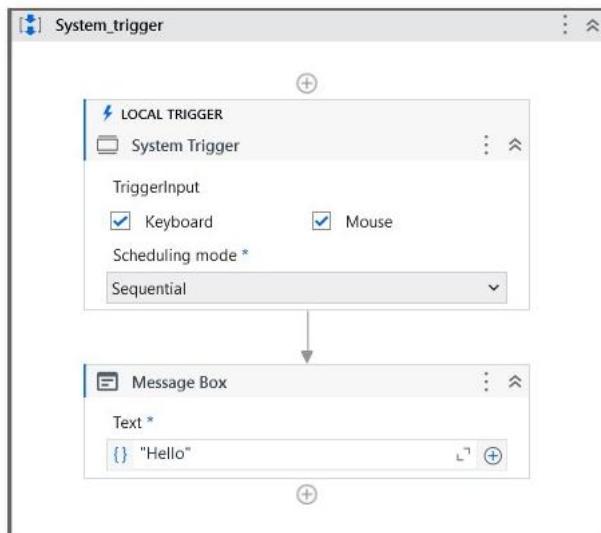
Output:



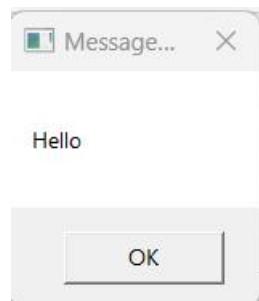
■ System Triggering Event

Introduction:

This event is used when you have to use all of the keyboard events, all of the mouse events, or both.



Output:



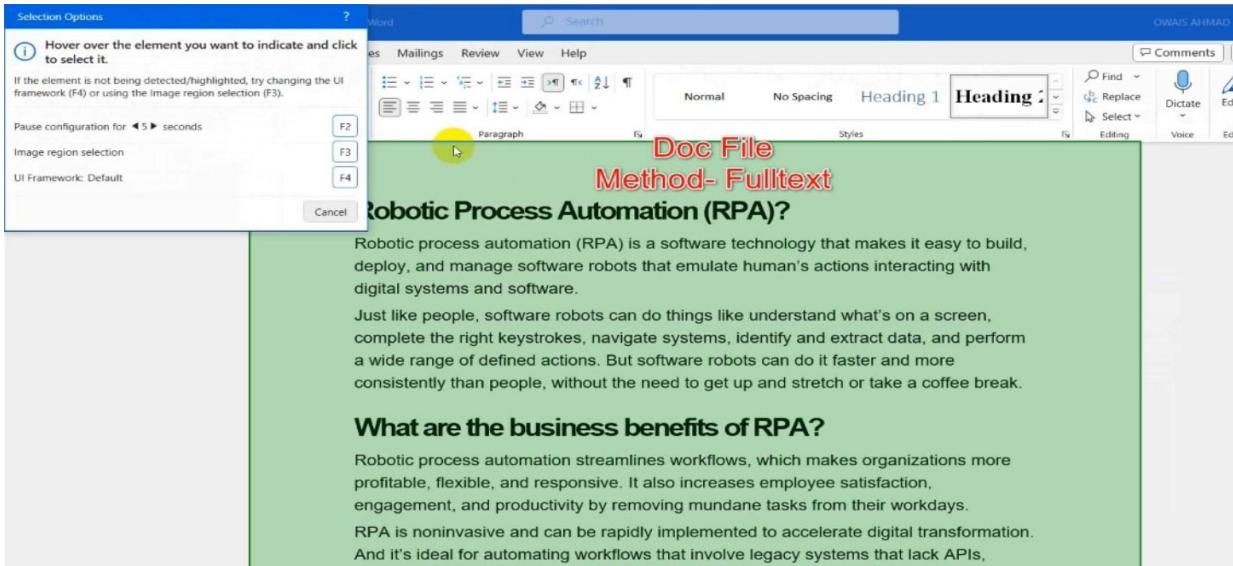
B. Automate the Screen scrapping Methods Using Ui Path

a) i. Full Test

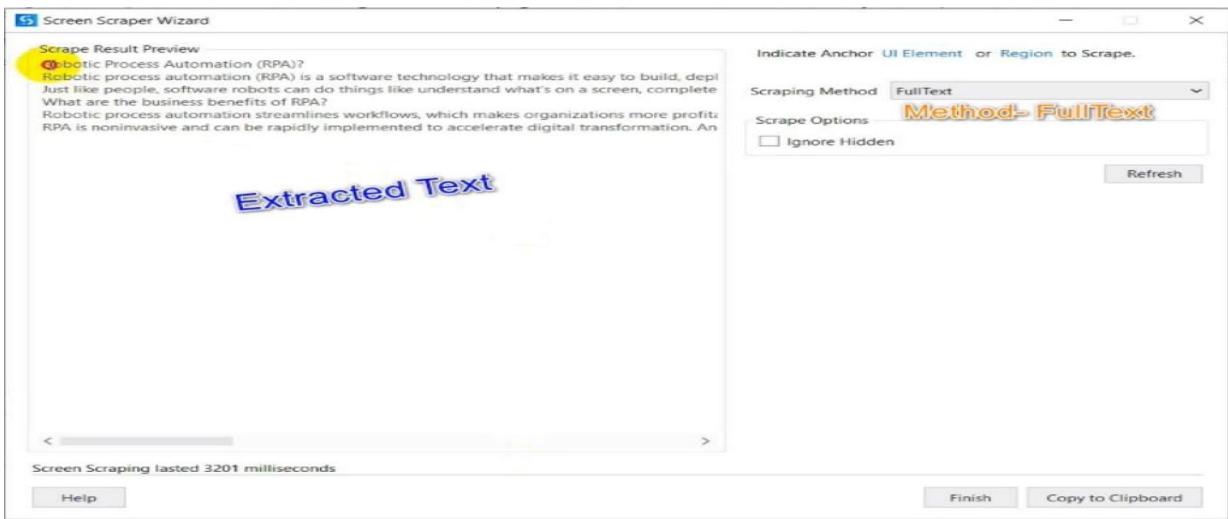
This method is used to extract text from the entire visible screen or a specified region based on the defined UI element.

It is suitable for applications that provide accessible text content through standard UI Automation techniques

Input:



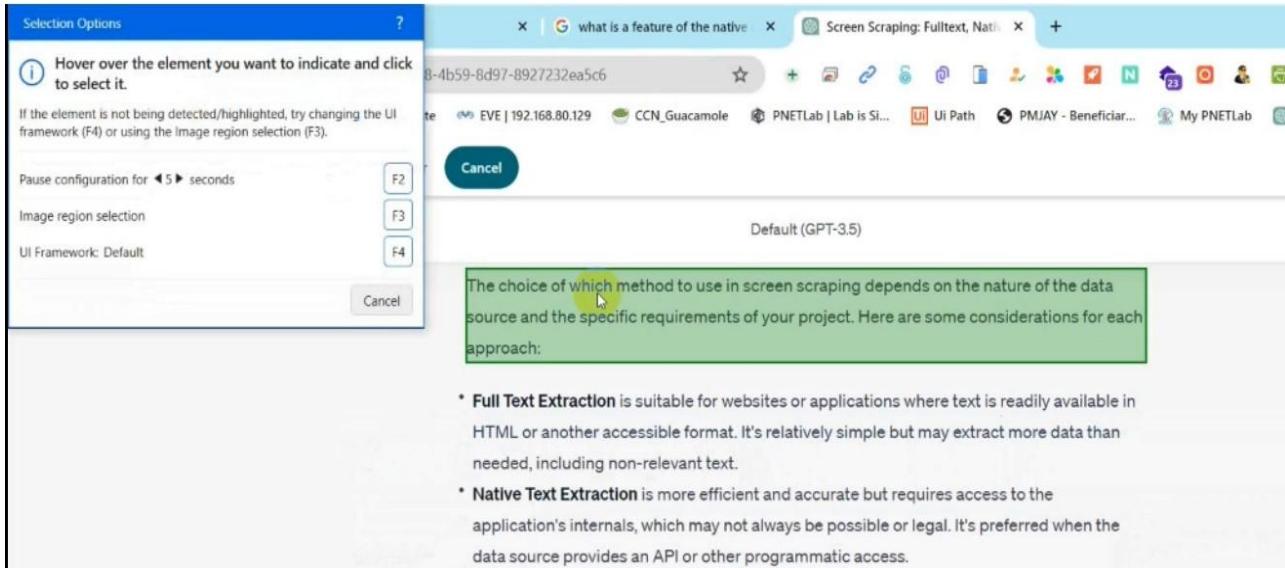
Output:



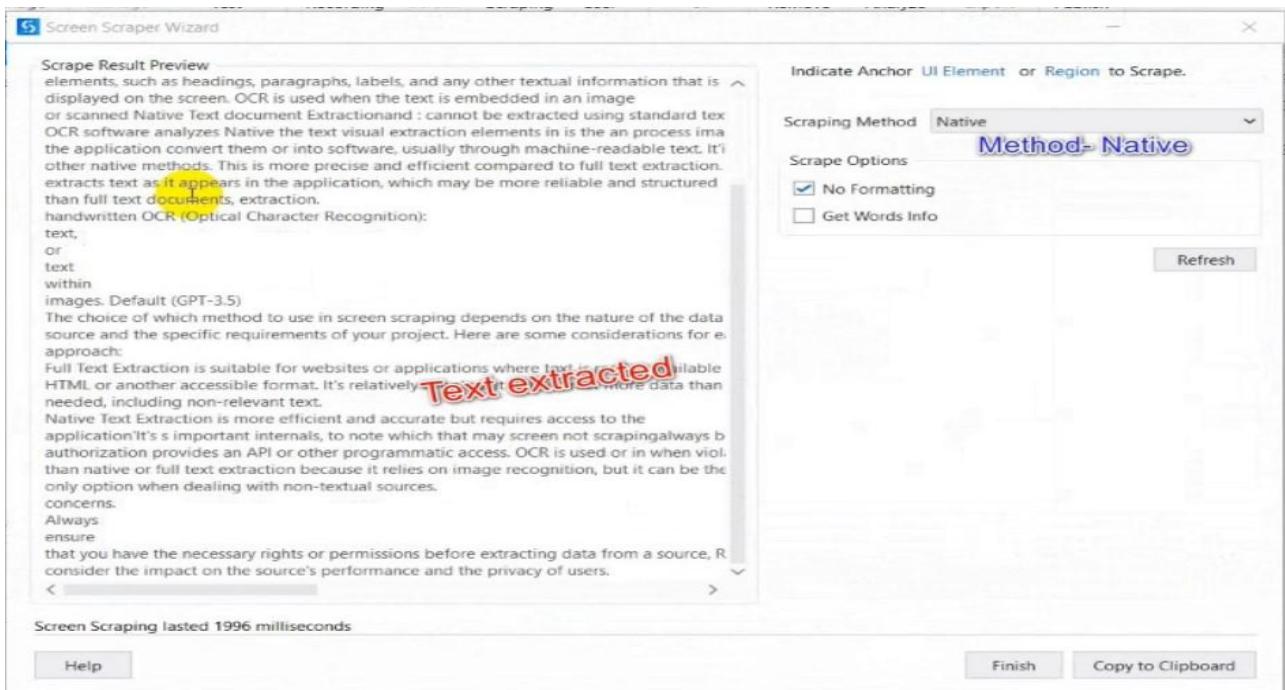
ii. Native screen scraping is designed to extract structured data directly from the UI elements in applications that support UI Automation.

It is effective when working with applications that expose their data using UI Automation properties and methods.

Input:



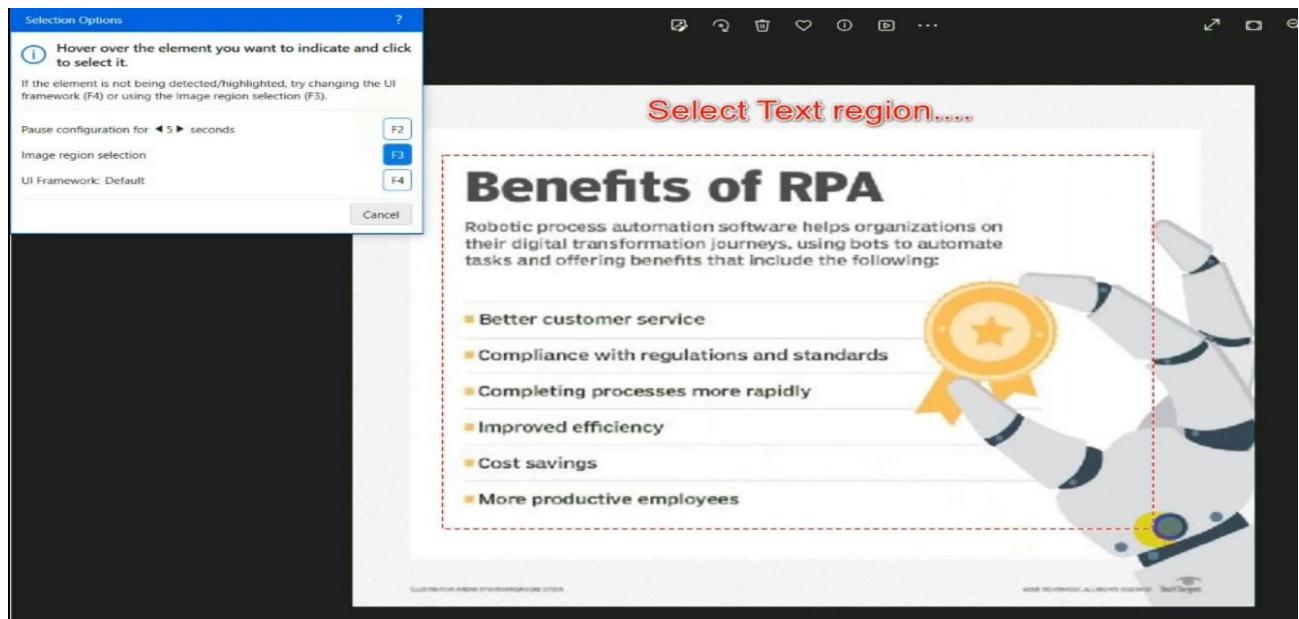
Output:



iii. OCR is used when working with applications or elements that do not provide accessible text or when the text is part of an image.

OCR technology is employed to analyze and extract text from images by converting visual information into machine-readable text.

Input:



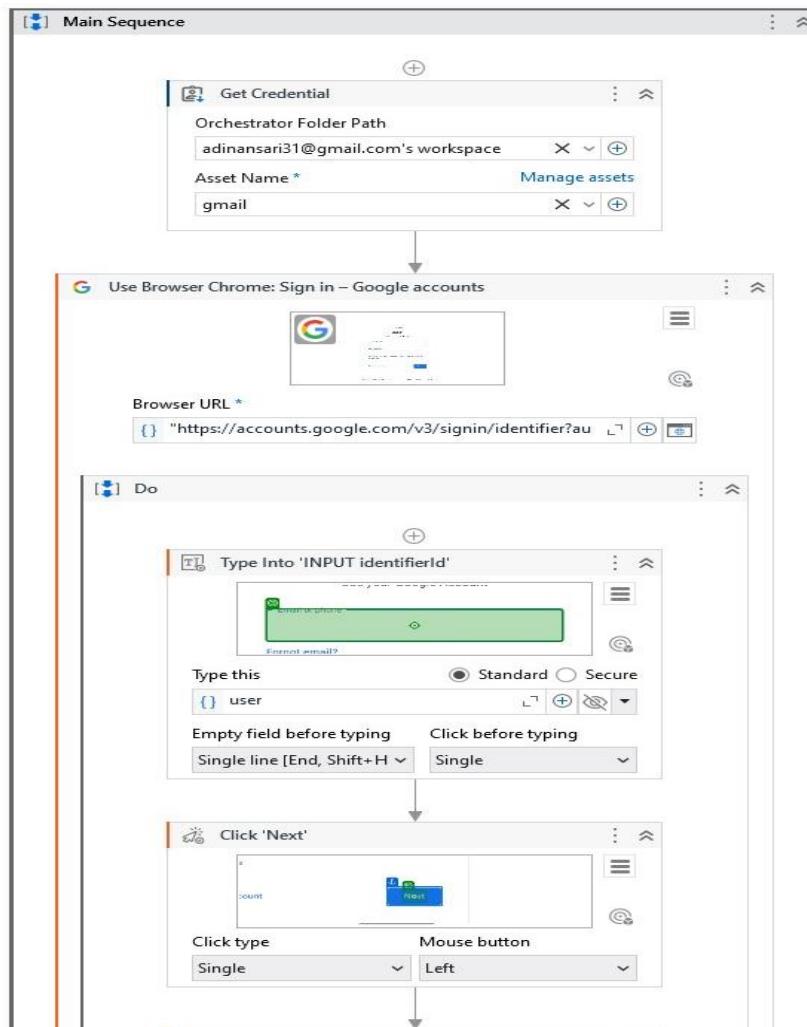
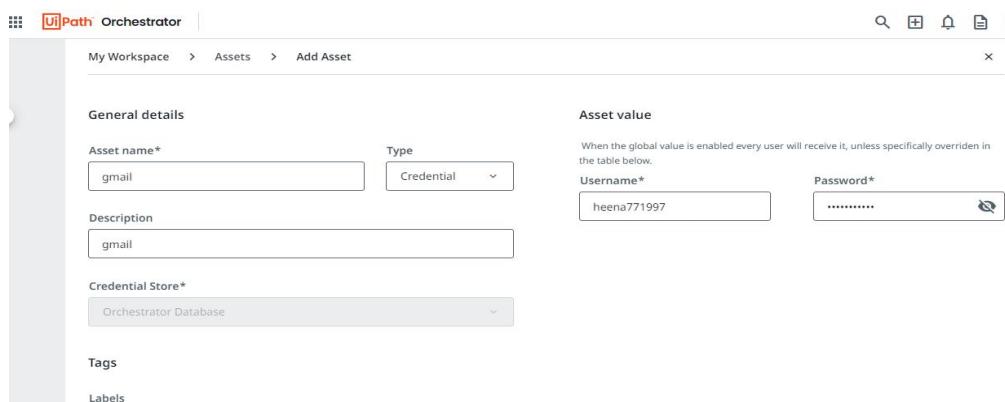
Output:

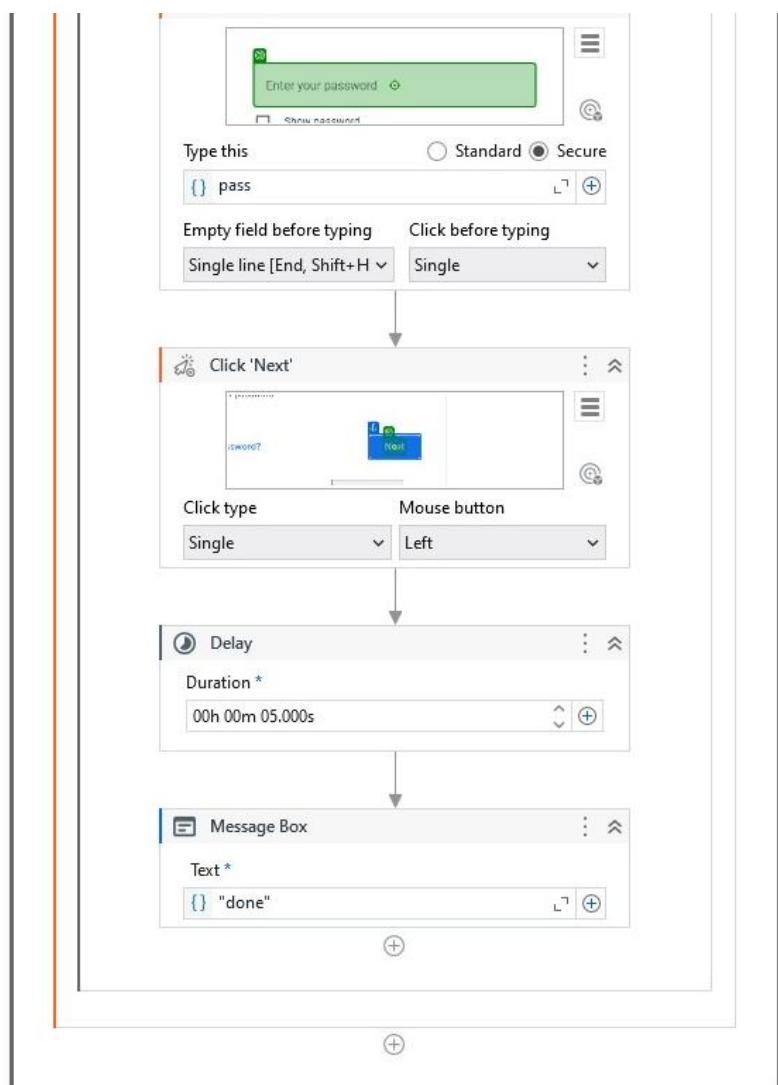
A screenshot of the "Screen Scraper Wizard" application. The "Scrape Result Preview" pane shows the extracted text from the "Benefits of RPA" page, including the title and a list of benefits. The "Method- OCR" section is highlighted in pink. The "Scraping Method" dropdown is set to "OCR". Other settings include "Tesseract OCR" for the "OCR Engine", "Any character" for "Characters", and a scale of "1". There are also checkboxes for "Invert" and "Get Words Info". The status bar at the bottom indicates "Screen Scraping lasted 21629 milliseconds".

Credential management

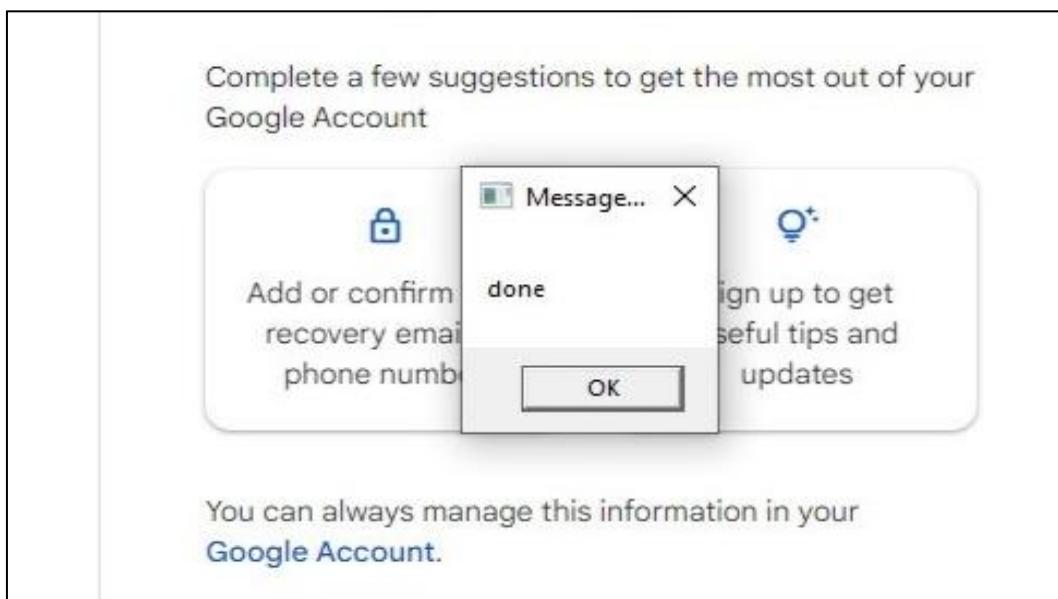
Introduction :

Credentials management is a crucial aspect of robotic process automation (RPA) development, especially in UiPath Studio. Efficiently handling and securing sensitive information such as usernames and passwords is essential for maintaining the integrity and security of automated processes. UiPath Studio provides a dedicated Credential Manager to streamline and safeguard these credentials. In this guide, we will explore the steps to effectively manage credentials in UiPath Studio, ensuring a robust and secure foundation for your RPA workflows.





Output :



Question :

- C. Install and automate any process using UiPath with the following plug-ins:
- Java Plugin

Introduction :

In Java, a plugin is a modular extension that dynamically enhances the functionality of an application without altering its core code. Typically implemented through dynamic class loading and reflection, plugins adhere to predefined interfaces. The Java platform's flexibility allows developers to create dynamic, reusable components that can be loaded at runtime. For example, a main application can utilize reflection to discover and load classes that implement a plugin interface, thereby adding specific features or capabilities. Various frameworks, such as Apache Felix and OSGi, provide more sophisticated tools for building and managing Java plugins, facilitating modular and extensible software architectures.

Solution :**■ Java Extension Installation:**

UiPath requires the Java Extension to interact with Java applications.

You can install it using the UiPath Studio. Navigate to the "Home" tab and click on "Tools." Select "Java Extensions" and follow the instructions to install the extension.

■ Automating Java Applications:

Use the "Click," "Type Into," and other relevant activities to interact with Java UI elements.

For Java selectors, use the UiExplorer tool to capture accurate selectors for Java elements.

Java Bridge:

UiPath uses a technology called the "Java Bridge" to communicate with Java applications.

Ensure that the Java Bridge is running when automating Java applications.

Java Activities:

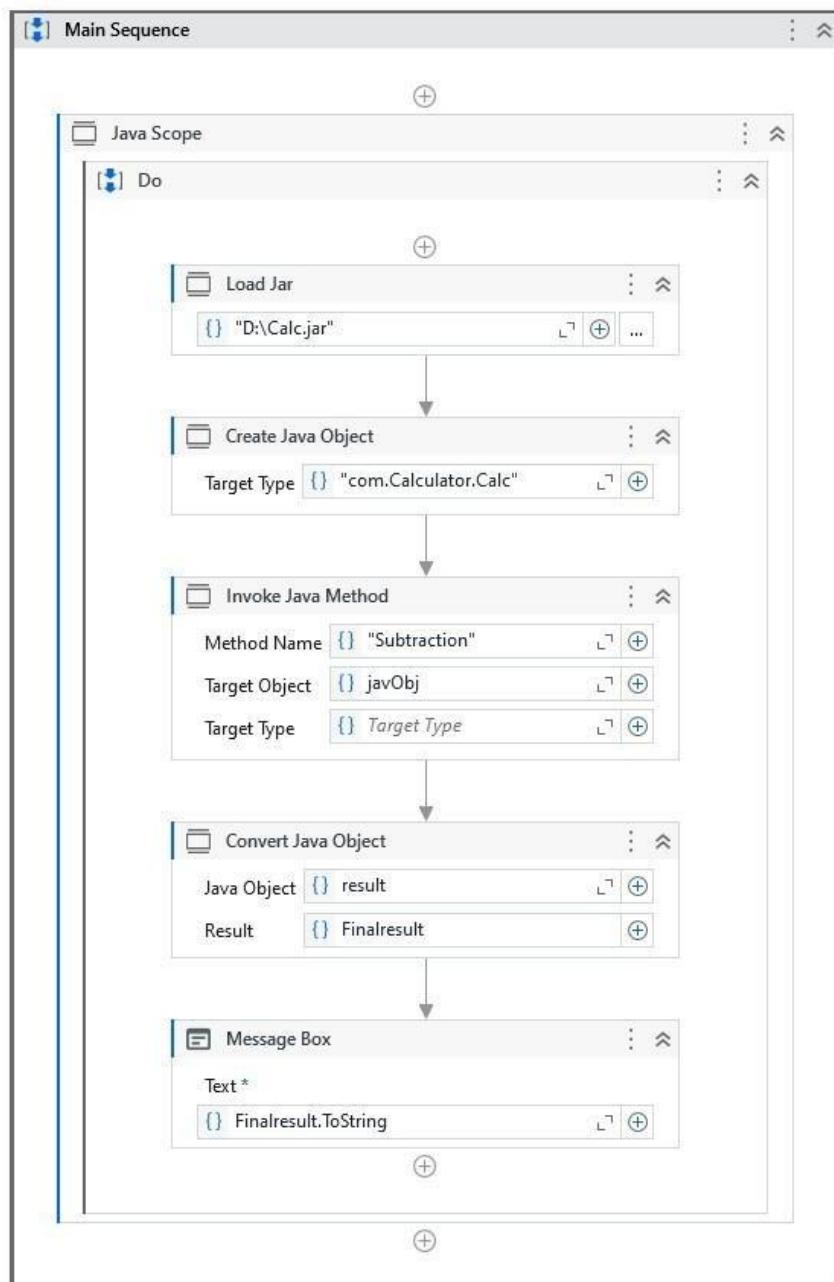
UiPath provides Java-specific activities for automating Java applications. These activities can be found in the "Activities" pane in UiPath Studio.

Debugging and Troubleshooting:

Debug the automation process using breakpoints and the UiPath Studio debugger.

If encountering issues, refer to UiPath documentation, forums, or community for assistance.

Output :



Practical 9

Question :

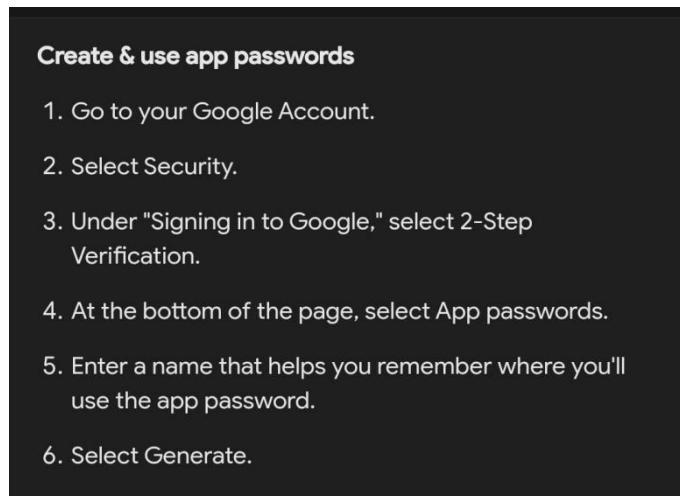
- a. Automate the process of send mail event (on any email).

Introduction :

SMTP, or Simple Mail Transfer Protocol, is a key component in Robotic Process Automation (RPA) when dealing with email communication. In RPA, SMTP is utilized to send emails programmatically. It provides a set of rules for the transmission of electronic mail, allowing RPA bots to interact with email servers and dispatch messages.

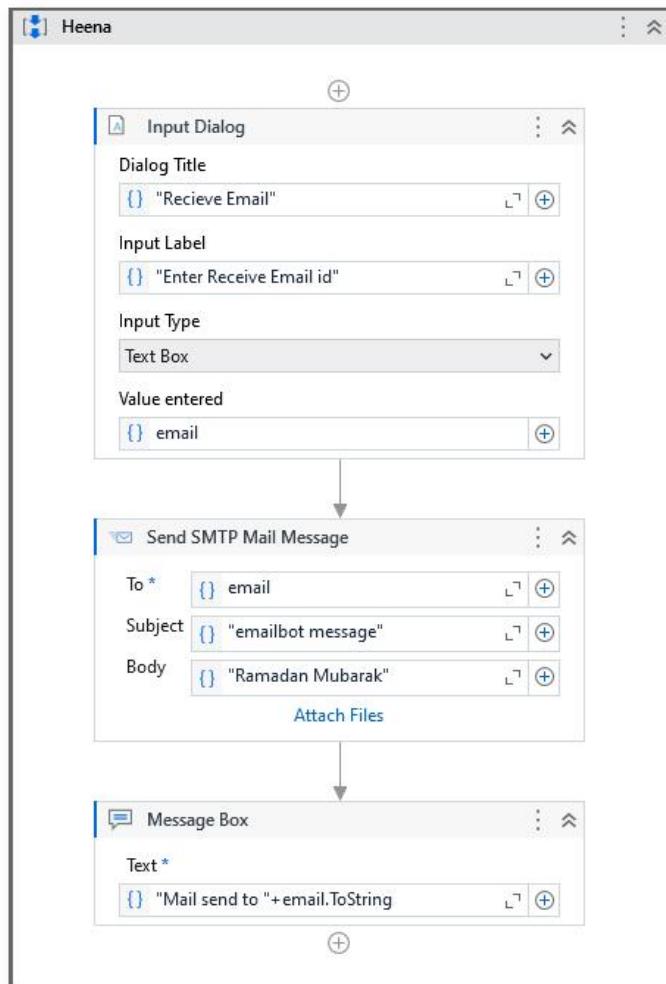
Solution :

1. To send a mail from one address to another , we need to create App Password in G mail settings.To create an app password follow these steps : -



2. Now we can Drag and drop the “Send SMTP Mail Message” activity in a sequence to send mail. In the Properties Panel , configure details like this :





Output :



emailbot message



heena771997@gmail.com

to me ▾

Ramadan Mubarak

Reply

Forward



Question :

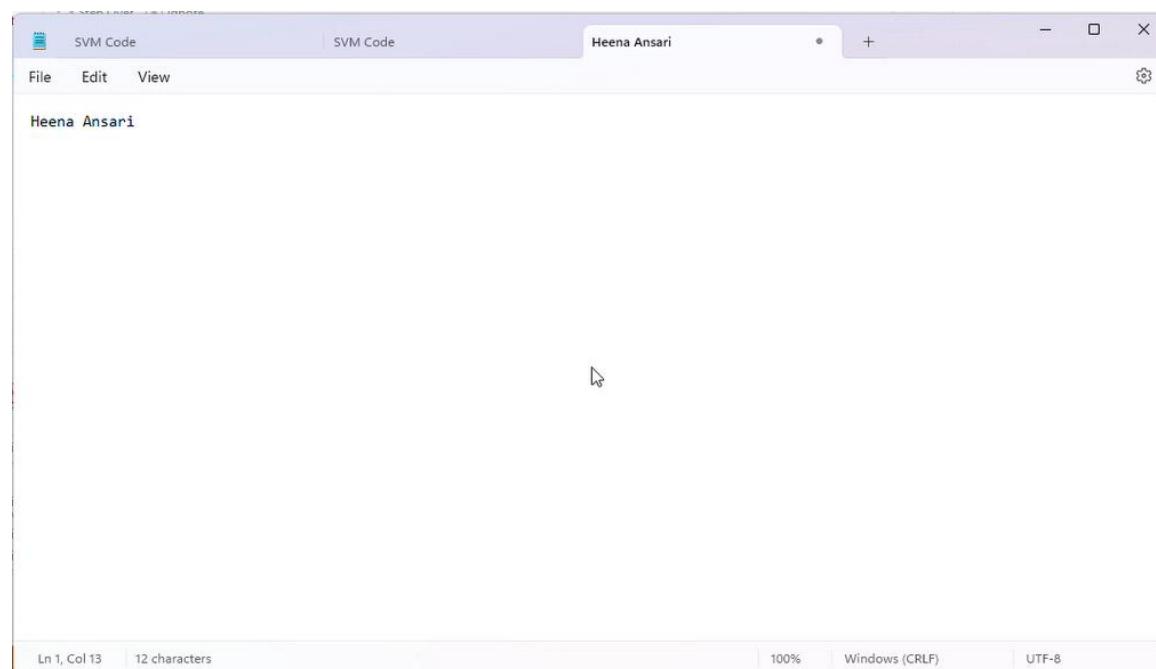
- b. Automate the process of launching an assistant bot a keyboard event.

Introduction : In Robotic Process Automation (RPA), automating the process of launching an assistant bot and simulating keyboard events involves using scripts to mimic human interactions

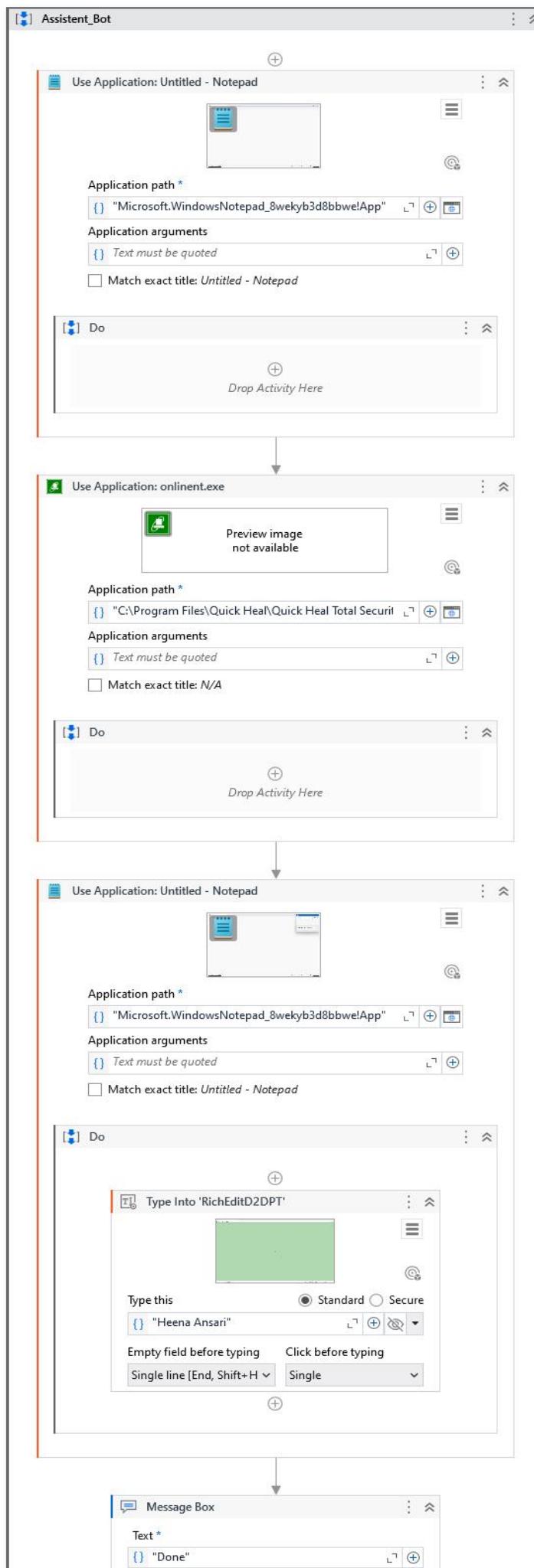
Solution :

We will create an assistant bot that will open the Notepad and write some text in it. The output may look like this :

Output :



The steps to create the flow are as follows :-



C. Demonstrate the exception handling in UI Path

Exception handling in UiPath is a critical aspect of building robust and reliable automation. It involves anticipating potential errors and defining strategies to handle those errors gracefully, ensuring that your automation can recover or provide meaningful feedback when issues arise. Below is a demonstration of how to implement exception handling in UiPath Studio:

1. Build the Basic Workflow:

- Drag and drop the necessary activities to read a value from an Excel file and display a message. This might include activities like "Excel Application Scope," "Read Cell," and "Message Box."

2. Add Exception Handling:

- Drag an "Try Catch" activity onto the workflow. This activity has two parts: the "Try" block, where you place the activities you want to monitor for exceptions, and the "Catch" block, where you define what to do when an exception occurs.

3. Place Activities in the "Try" Block:

- Drag the activities you want to monitor for exceptions into the "Try" block.

4. Configure Exception Handling in the "Catch" Block:

- In the "Catch" block, you can add activities to handle specific exceptions or use a generic "System.Exception" to catch any type of exception.
- For example, you can use the "Log Message" activity to log the exception details and display a message to the user.

5. Configure the "Finally" Block (Optional):

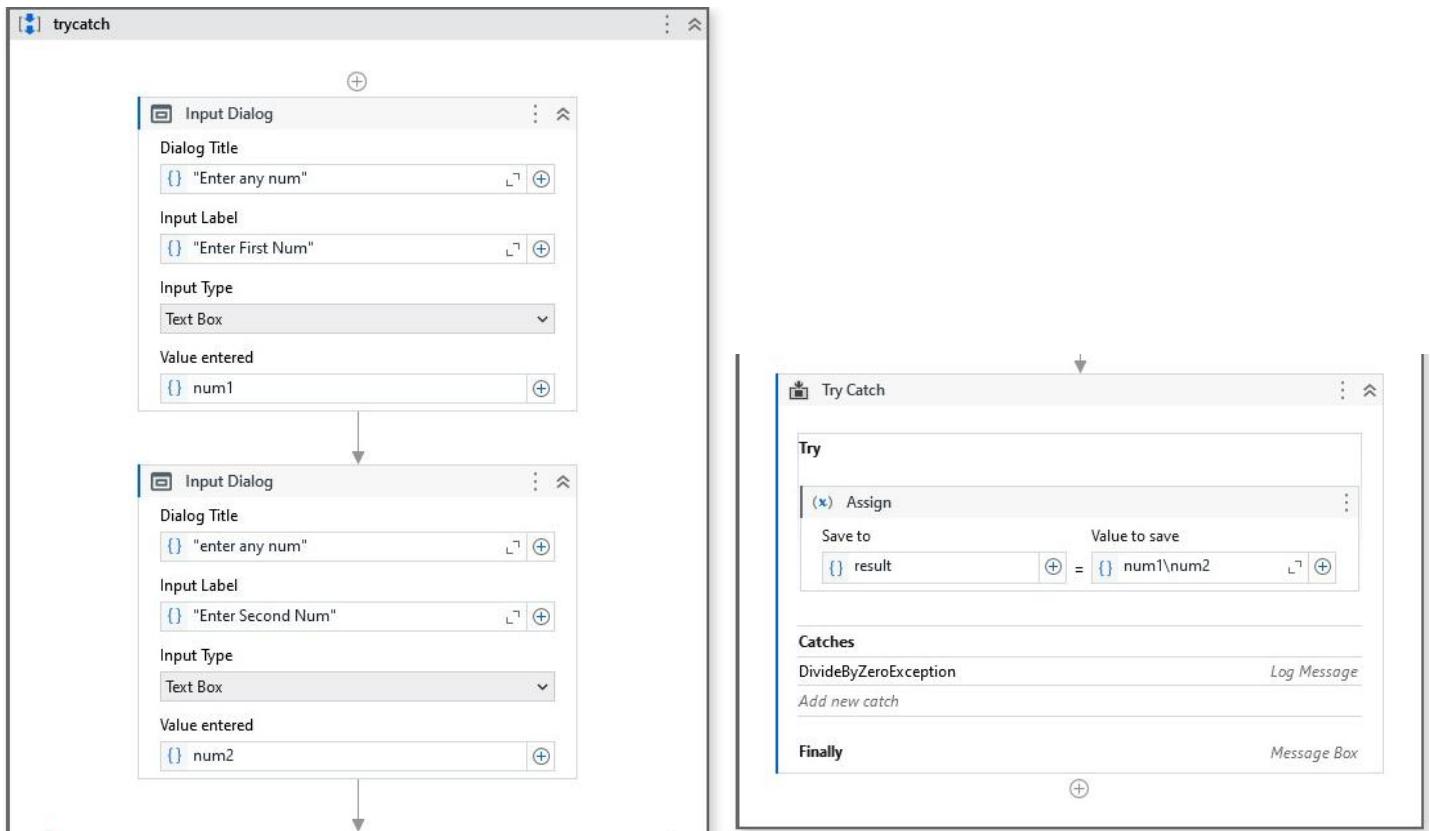
- You can also use a "Finally" block to specify actions that should be taken regardless of whether an exception occurs or not. This block is optional.

6. Run the Workflow:

- Run the workflow to test the exception handling. Intentionally introduce an error, such as providing an incorrect Excel file path, to trigger the exception.
- Observe how the workflow logs the exception, displays a message, and continues with the "Finally" block.

By implementing exception handling using the "Try Catch" activity, you can control the behaviour of your automation in the event of errors. This approach allows you to log relevant information, provide user-friendly messages, and gracefully recover from exceptions, enhancing the reliability and maintainability of your UiPath automation.

Input:



Output:



Orchestrator Logs

Time	Level	Process	Hostname	Host Identity	Message
1/16/2024, 11:05:20 AM	Info	Manual	DESKTOP-9QJSO...	DESKTOP-9QJSO...	Manual execution ended
1/16/2024, 11:05:18 AM	Error	Manual	DESKTOP-9QJSO...	DESKTOP-9QJSO...	System.DivideByZeroException: Attempted to divide by zero. at Namespace_a...
1/16/2024, 11:05:11 AM	Info	Manual	DESKTOP-9QJSO...	DESKTOP-9QJSO...	Manual execution started



Practical 10

a. Automate the Process of logging and taking screenshots in UiPath.

• Open UiPath Studio:

Launch UiPath Studio on your machine.

• Create a New Project:

Create a new project by clicking on "New" and then selecting "Process."

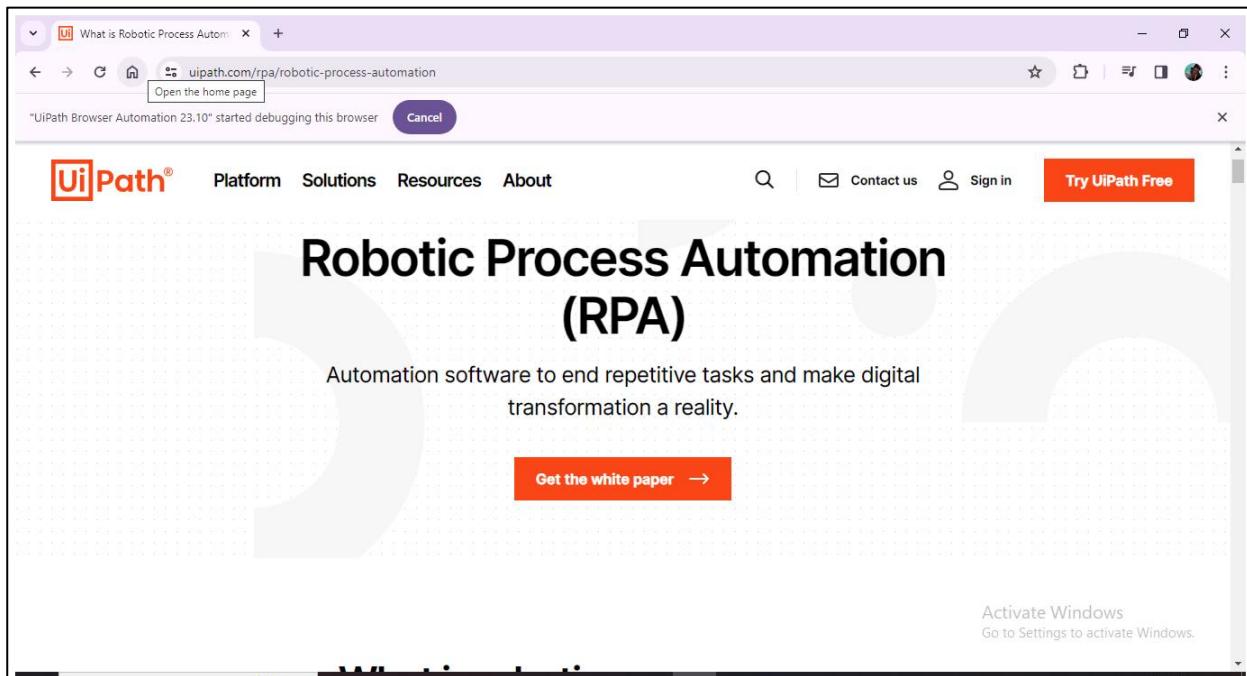
• Design the Workflow:

Drag and drop activities onto the workflow canvas to design the automation process.

Below are the key steps you may include:

a. Open Browser Activity:

Use the "Open Browser" activity to open the web browser of your choice.



b. Type Into Activity (for Login):

Use the "Type Into" activity to input the username and password into the login fields.

c. Click Activity (Login Button):

Use the "Click" activity to click the login button.

d. Take Screenshot Activity:

Use the "Take Screenshot" activity to capture the current state of the screen.

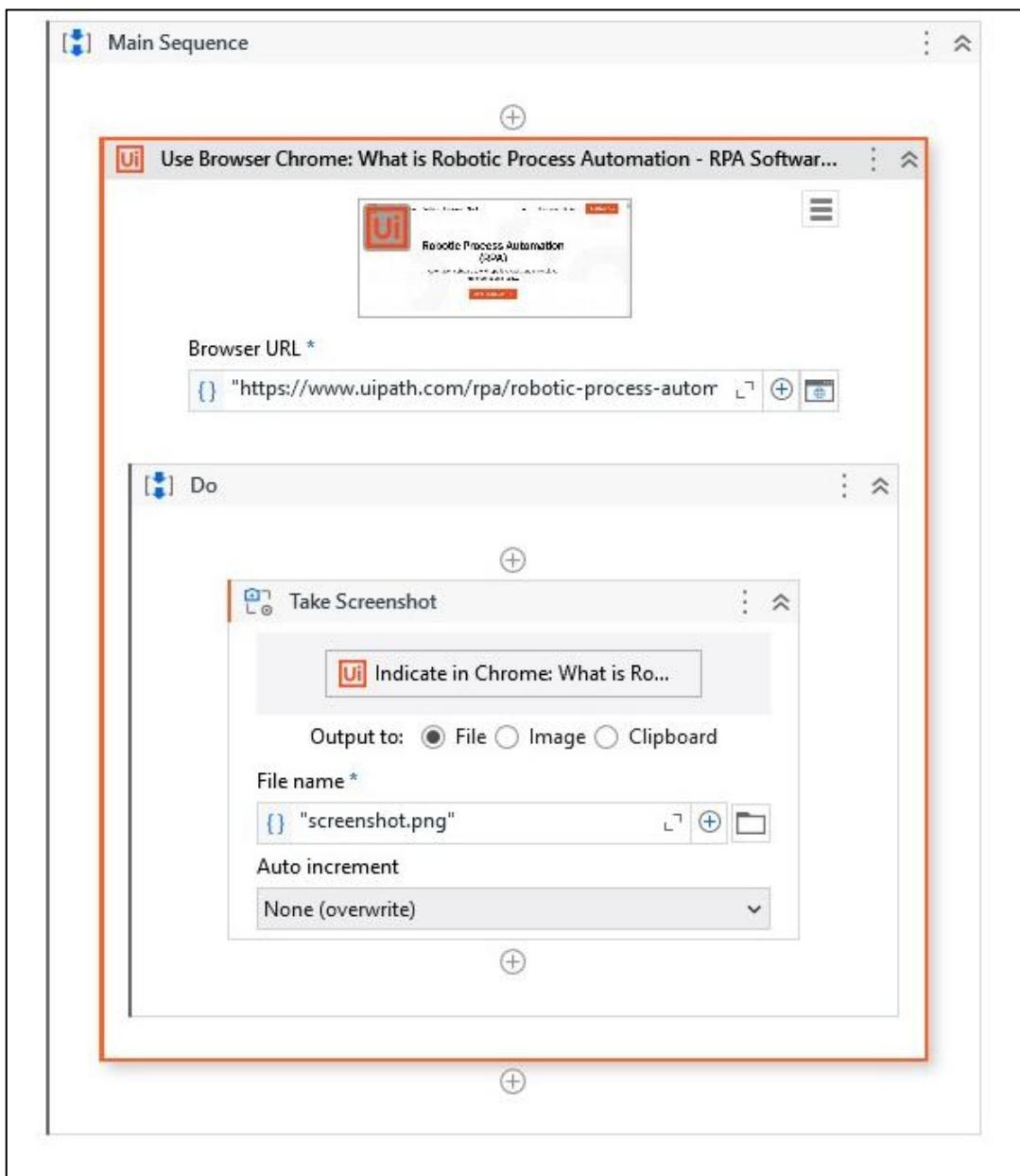
e. Save Image Activity:

Use the "Save Image" activity to save the screenshot to a specific location on your machine.

f. Close Application Activity:

Use the "Close Application" activity to close the web browser after taking the screenshot.

Output:



Configure Activities:

Configure each activity with the necessary input parameters. For example, set the URL in the "Open Browser" activity, specify the login credentials in the "Type Into" activity, and so on.

Run the Workflow:

Click the "Run" button in UiPath Studio to execute the workflow. The robot will open the browser, perform the login actions, take a screenshot, save the screenshot, and close the browser.

Debug and Refine:

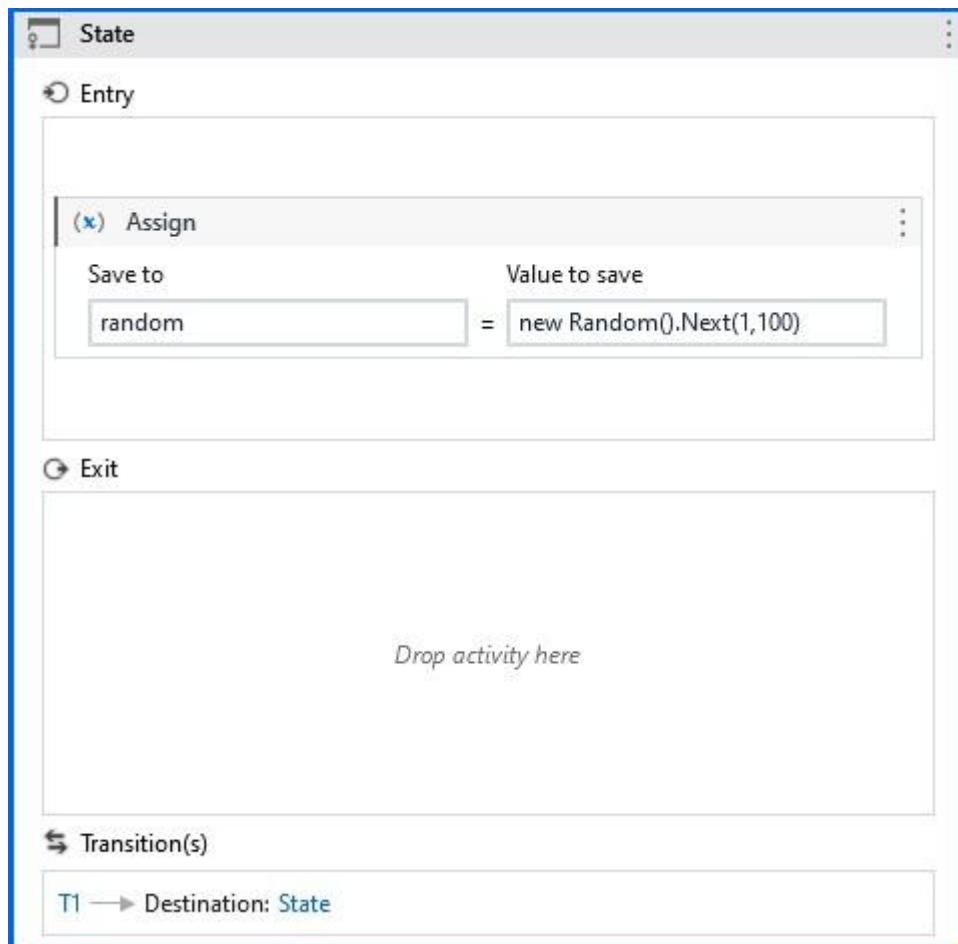
If needed, use the debugging features in UiPath Studio to troubleshoot and refine your workflow. You can step through the workflow to identify and address any issues.

Save and Publish:

b. Automate any process using State Machine in UI Path

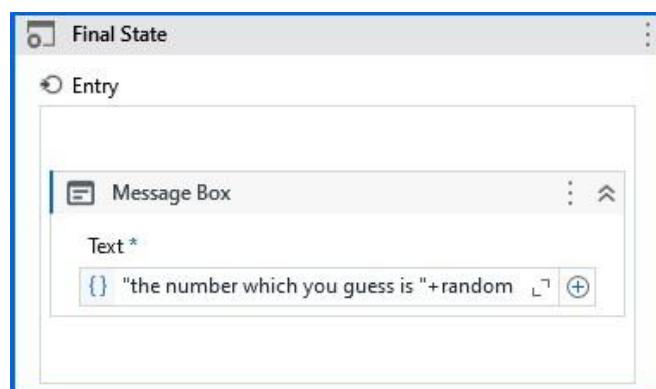
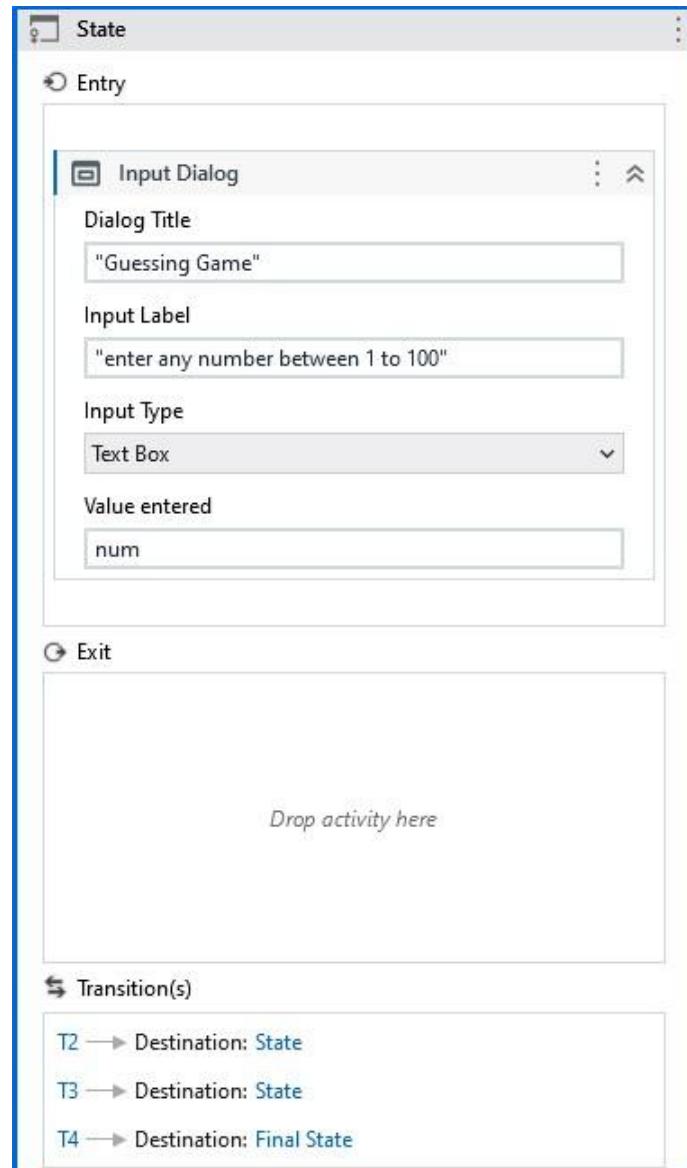
In UiPath, a State Machine is a type of workflow that allows you to model complex processes as a set of states, transitions, and activities. It is particularly useful for scenarios where the automation needs to move through different phases or states based on certain conditions or events.

Input:



- Create a new project:
Open UiPath Studio and create a new project.
- Design the State Machine:
Drag and drop a "State Machine" activity onto the workflow canvas.
- Define States:
Right-click on the "State Machine" activity and click on "Add State." Create the following states:
 - Initialization State:
In this state, generate a random number that the user needs to guess.
 - User Input State:
In this state, prompt the user to enter their guess using the "Input Dialog" activity.
 - Checking Guess State:
Check if the user's guess is correct or not using a conditional statement (e.g., If activity).
 - Game Completion State:

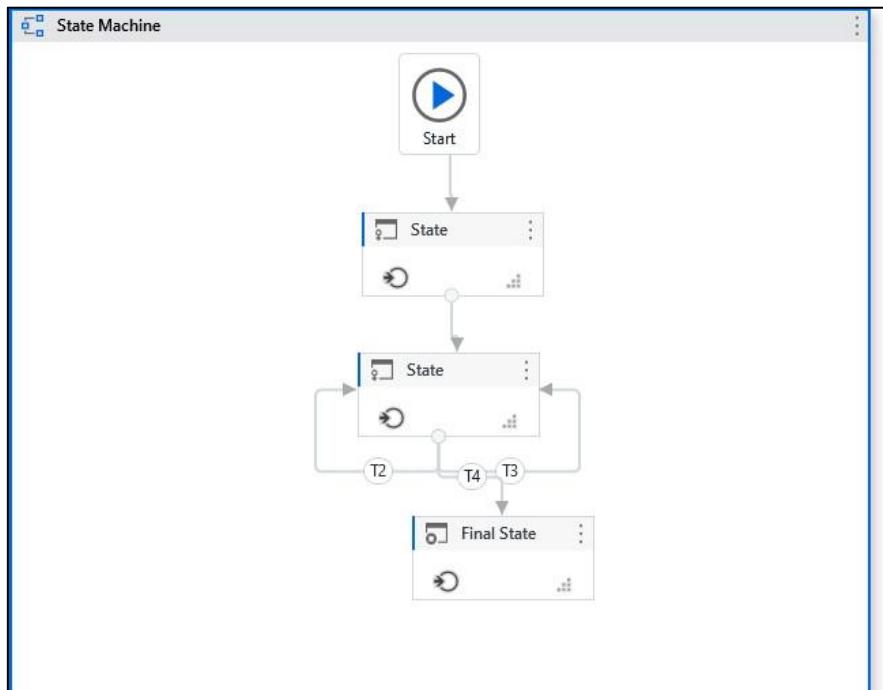
Display a message indicating whether the user has won or lost. Ask the user if they want to play again.



Game Completion State:

- Display a message using the Message Box activity indicating whether the user has won or lost.

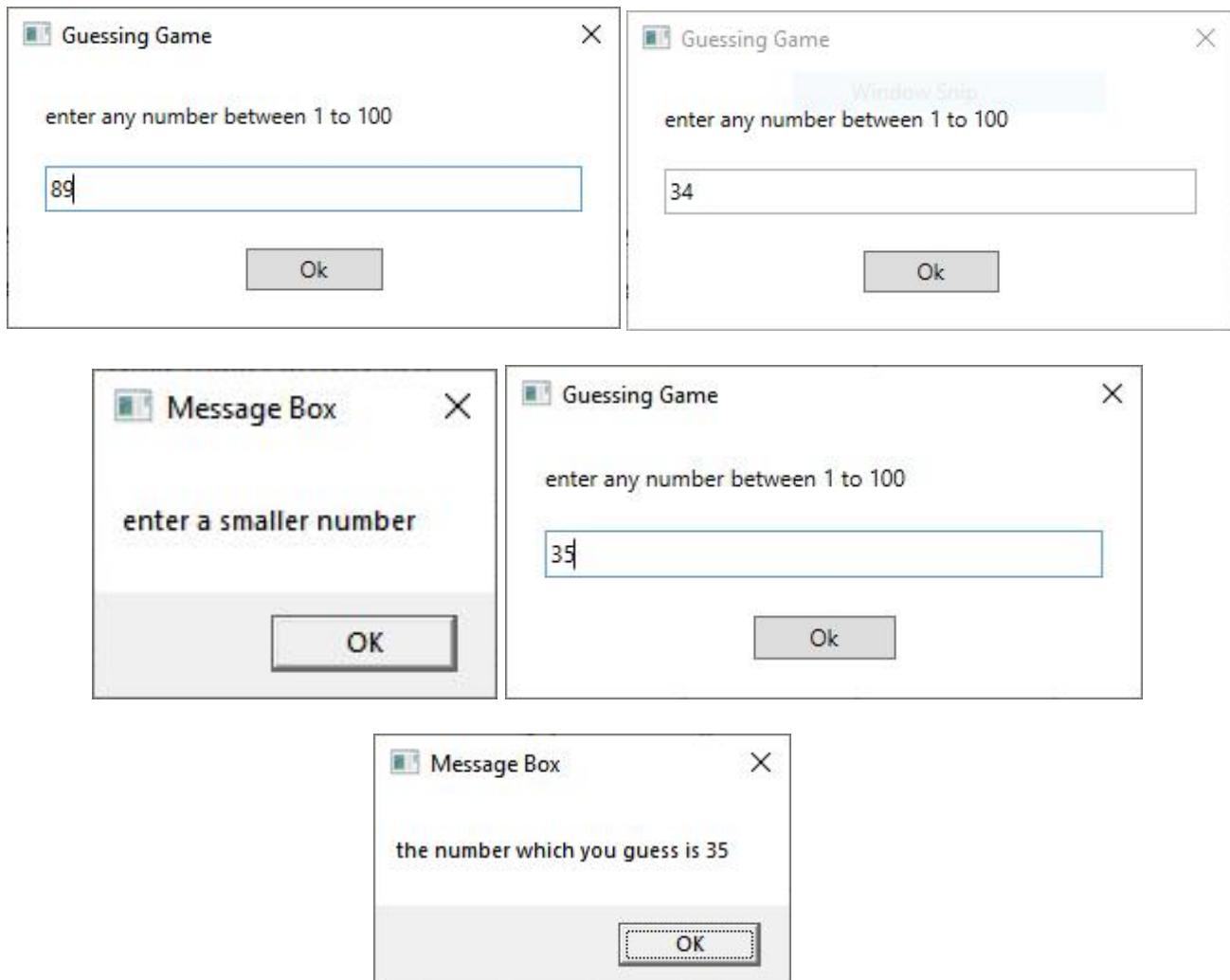
State Machine:



Run the Automation:

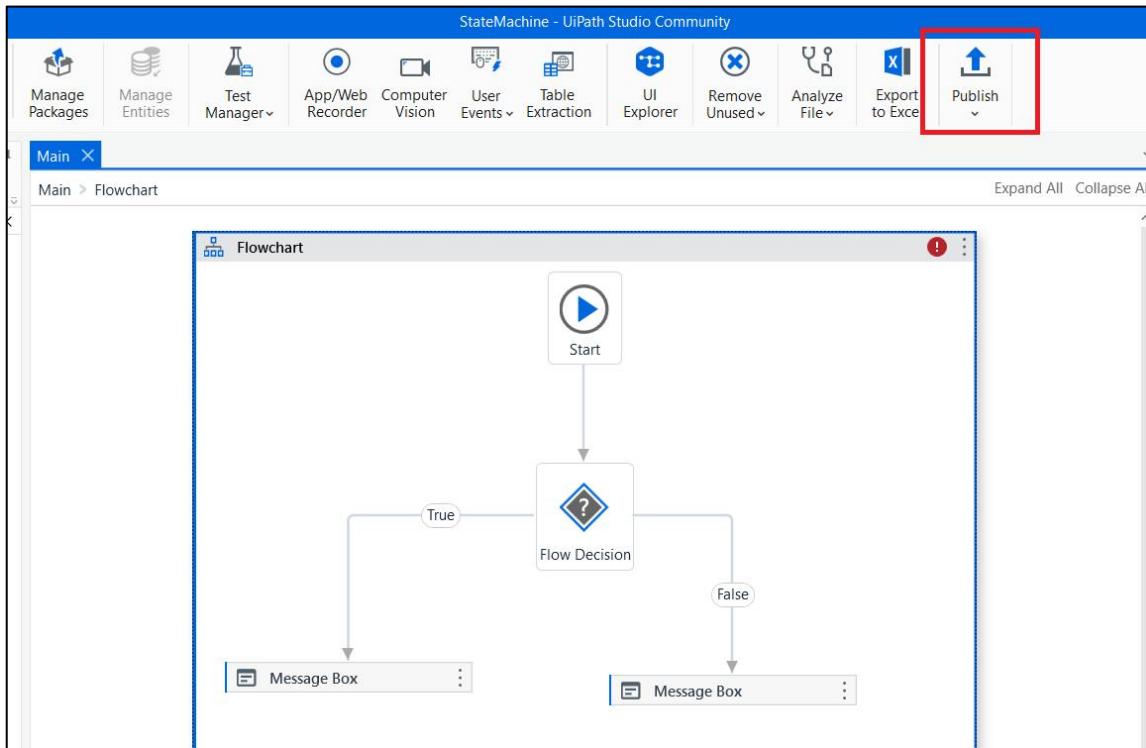
- Run the automation and interact with the Input Dialog to input guesses and receive feedback.

Output:



c. Demonstrate the use of publish utility.

In UiPath, the "Publish" functionality is used to package and deploy your automation project to Orchestrator or a local directory. This allows you to run your automation on different environments and manage the execution from a centralized platform. Below is a step-by-step demonstration of how to use the "Publish" utility in UiPath Studio:



1. Open UiPath Studio:

- Open UiPath Studio on your machine.

2. Open or Create a Project:

- Open an existing UiPath project or create a new one.

3. Configure Project Settings:

- Ensure that your project settings are configured correctly, including dependencies, variables, and any necessary settings for your specific automation.

4. Navigate to the "Publish" Option:

- Click on the "Project" tab in the UiPath Studio ribbon.
- Click on the "Publish" button. This opens the "Publish" window.

5. Configure Publishing Settings:

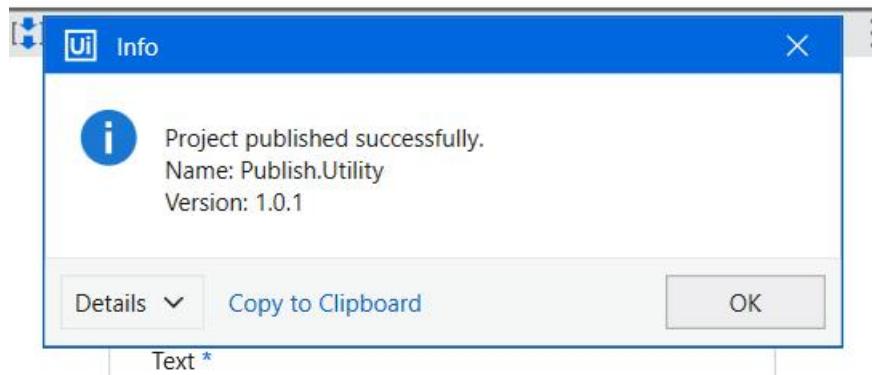
- In the "Publish" window, you will see several options:
 - **Publish Location:** Specify whether you want to publish to Orchestrator or a local directory. If publishing to Orchestrator, provide the Orchestrator URL and credentials.
 - **Publishing Version:** Specify the version of the package. You can choose to increment the version automatically or set it manually.
- Click on the "Publish" button.

Ui Publish Process

<input checked="" type="checkbox"/> Package properties <input type="checkbox"/> Publish options <input type="checkbox"/> Certificate signing	Package properties Package Name * <input type="text" value="Publish Utility"/> Version Current Version <input type="text" value="1.0.0"/> <input type="checkbox"/> Is Prerelease ? Package Icon ?  <input type="text" value="Optional Package Icon"/> <input type="button" value="File icon"/> Project tags <input type="text" value="test X"/> Release Notes <input type="text" value="Final Release"/>
<input type="button" value="Cancel"/> <input type="button" value="Back"/> <input type="button" value="Next"/> <input checked="" type="button" value="Publish"/>	

View Published Package:

- After successful publishing, you will see a confirmation message. The package is now available in the specified location.
- If publishing to Orchestrator, you can check the Orchestrator Packages page to verify that your package is listed.



1. Deploy the Published Package:

- If you published to Orchestrator, you can deploy the package to different environments or run it on various robots. If you published locally, you can manually distribute the package to other machines.
- In Orchestrator, you may need to create a process and associate the published package with it.

2. Run the Process:

- Trigger the process in Orchestrator or run it manually in UiPath Assistant on the local machine.
- If you published locally, execute the robot on the machine where the package is deployed.

The screenshot shows the UiPath Orchestrator web interface. The top navigation bar includes links for Tenant, Home, Automations (which is the active tab), Monitoring, Queues, Assets, and Storage Buckets. Below the navigation is a sub-menu for Processes, Jobs, Apps, Triggers, My Packages, and Logs. A search bar and filter options are available. A table lists a single process: FirstStateMachine, version 1.0.2, with execution type set to Me... (Unattended) on Windows. A blue button labeled '+ Add process' is visible at the top right of the table area.

Monitor Execution:

- Monitor the execution of your automation using Orchestrator, UiPath Assistant, or any other logging mechanism you have set up.

The screenshot shows the 'Start Job' dialog within the Orchestrator interface. It starts with a breadcrumb trail: My Workspace > Automations > Processes > Start Job. The main form has fields for 'Process Name*' (set to FirstStateMachine), 'Job priority*' (Inherited), and 'Runtime type*' (No runtimes available). Below these are tabs for 'Execution Target' (selected) and 'Arguments'. Under 'Execution Target', there are options to 'Allocate dynamically' and 'Execute the process 1 times'. There are three radio buttons for job execution endings: 'Schedule ending of job execution' (selected), 'Generate an alert if the job is stuck in pending or resumed status', and 'Generate an alert if the job started and has not completed'. On the right, a 'Machine' dropdown is set to 'Any machine' with a search bar. At the bottom are 'Cancel' and 'Start' buttons.

By **following these steps**, you can effectively use the "Publish" utility in UiPath Studio to deploy and execute your automation projects. Keep in mind that Orchestrator is particularly useful for managing and scaling automation across multiple machines.